09/011,745

MLV-LTR

del psi

SD

Mo MLV GAG-POL

SA

BSR

Poly A

Pol gene...TCT AGA CTG ACA TG G CGC

GTT CAA CGC TCT CAA AAC CCC TTA

AAA ATA AGG TTA ACC CGC GAG GCC

CCC TAA

tccccttaattcttcgatgctcagagggtcagtac

tgcttcgcccggctccagtgcgcccagccggccacc

ATG AAA ACA TTT AAC ATT TCT...bsr gene

Figure 1. Schematic structure of CeB expression vector

*Env gene...*TAC GAG CCA **TAG**

gg<u>cg</u>cctagtgttgacaattaatcatcggcatagtata

cggcatagtatatacgactcactataggagggccacc

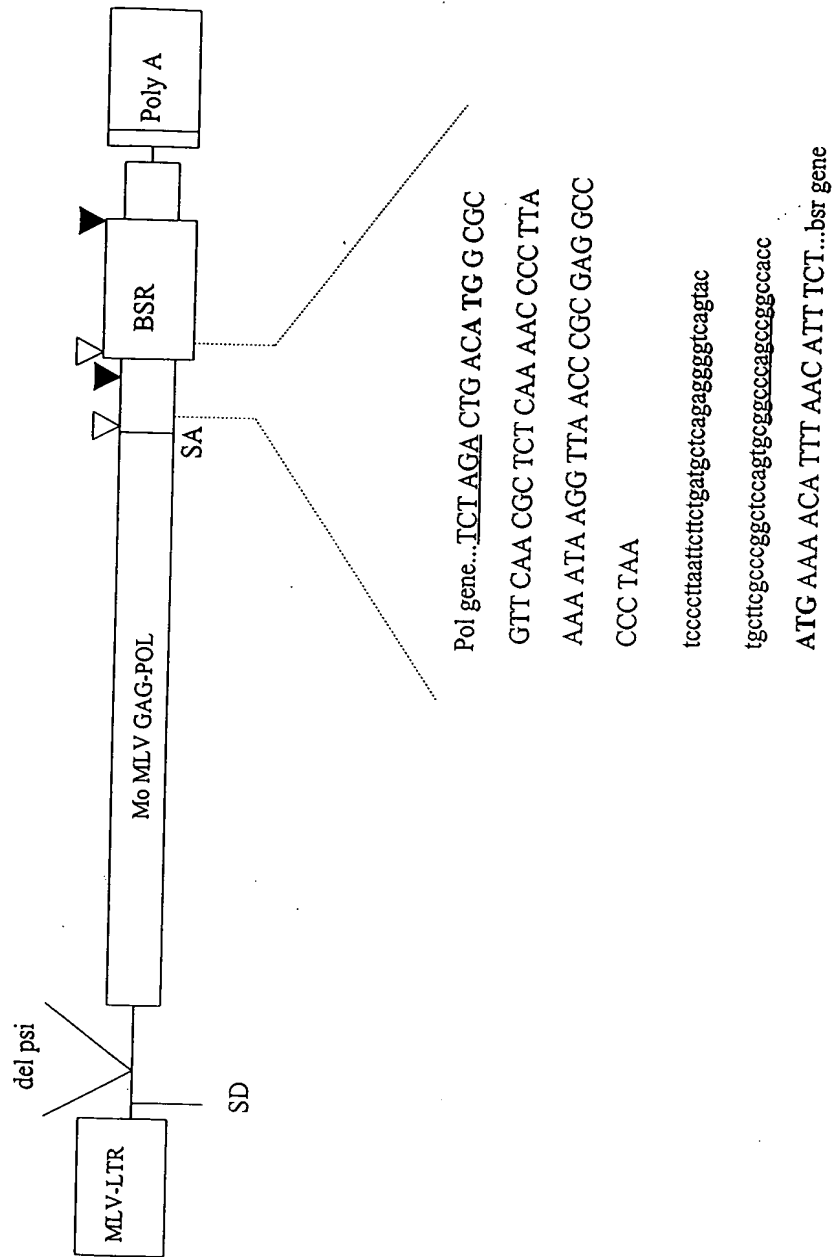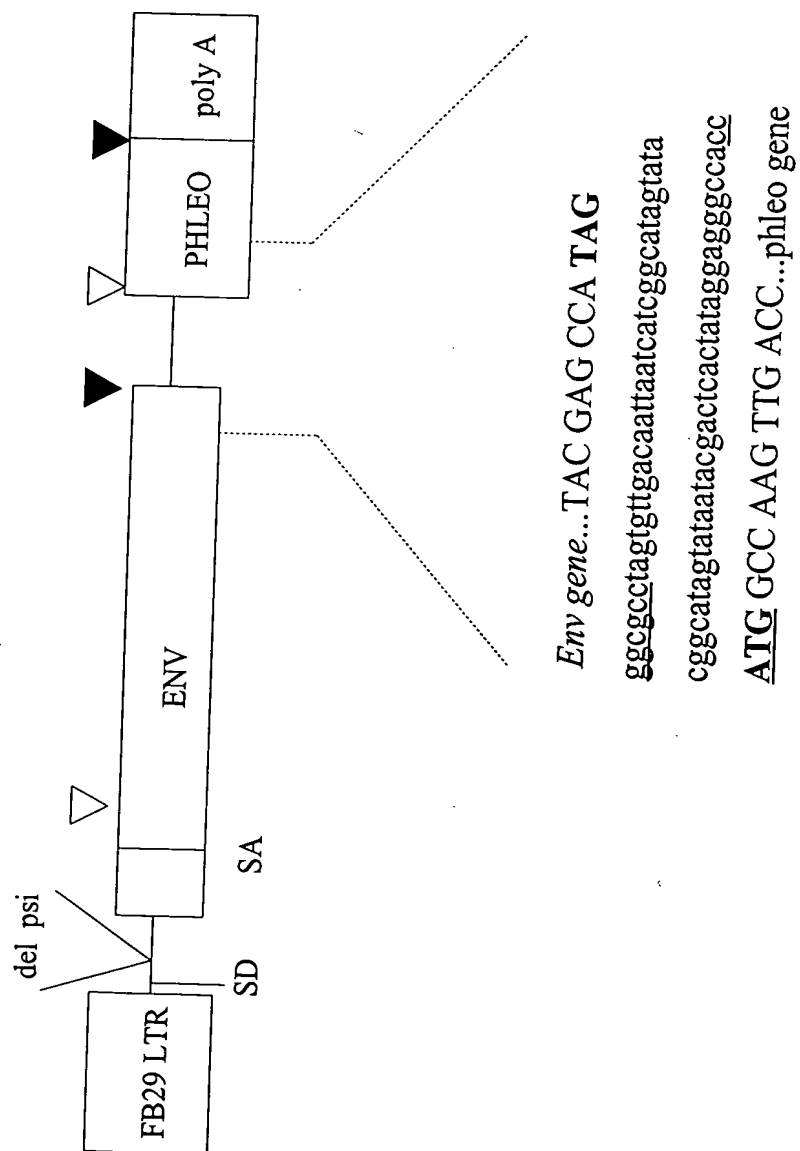<u>**ATG** GCC AAG TTG ACC</u>...phleo gene

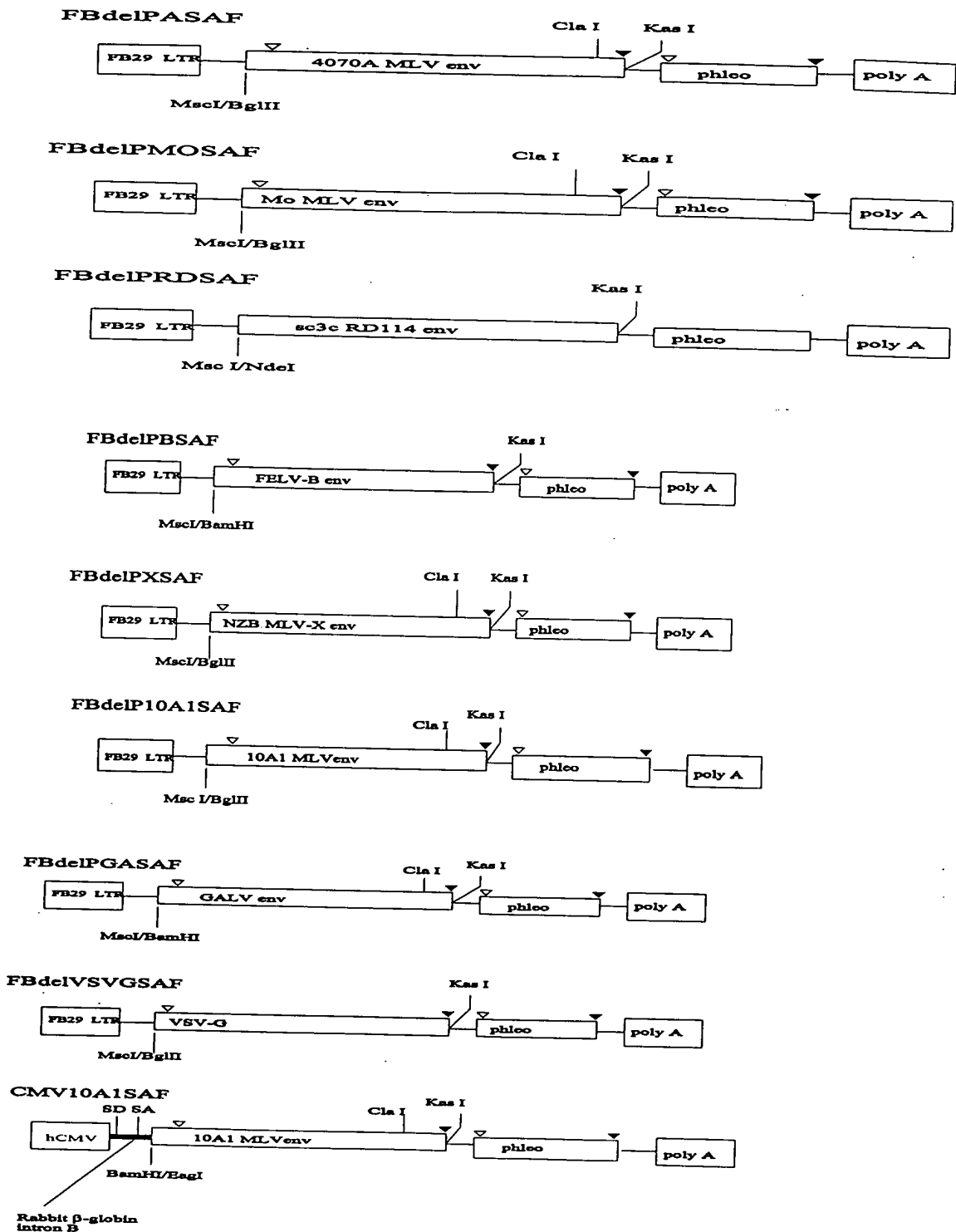**Figure 2.** Schematic structure of FbdelPASF expression vector

**Figure 3. Schematic structure of env expression vectors**

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CCTTAGAGACTGGCTTAAAAGATTGGAGACGCCTCCTATCTCTGGCTTTGTTAAGAGCCA 120
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CTTTGTCAACCTTGCTCAATTCCTTCTCCCCCTCCGATCCTAAGACTGATTTACAAGCCC 240
GACTAAAAGGGCTGCAAGGCGTGCAGGCCCAAATCTGGACACCCCTGGCCGAATTGTACC 300
GGCCAGGACATCCACAAACTAGCCACCCATTTCAGGTGGGAGACTCCGTGTACGTCCGGC 360
GGCACCGCTCTCAAGGATTGGAGCCTCGTTGGAAGGGACCTTACATCGTCCTGCTGACCA 420
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CAGCCCCAAAAACCCCTGGACCAGAAACTCCCAAAACCTGGAAGCTCCGCCGTTCGGAGA 540
ACCCTCTTAAGATAAGACTCTCCCGTGTCTGACTGCTAATCCACCTTGTCCCTGTACTAA 600
CCCAAAATGAAACTCCCAACAGGAATGGTCATTTTATGTAGCCTAATAATAGTTCGGGCA 660
GGGTTTGACGACCCCCGCAAGGCTATCGCATTAGTACAAAAACAACATGGTAAACCATGC 720
GAATGCAGCGGAGGGCAGGTATCCGAGGCCCCACCGAACTCCATCCAACAGGTAACTTGC 780
CCAGGCAAGACGGCCTACTTAATGACCAACCAAAAATGGAAATGCAGAGTCACTCCAAAA 840
ATCTCACCTAGCGGGGGAGAACTCCAGAACTGCCCCTGTAACACTTTCCAGGACTCGATG 900
CACAGTTCTTGTTATACTGAATACCGGCAATGCAGGCGAATTAATAAGACATACTACACG 960
GCCACCTTGCTTAAAATACGGTCTGGGAGCCTCAACGAGGTACAGATATTACAAAACCCC 1020
AATCAGCTCCTACAGTCCCCTTGTAGGGGCTCTATAAATCAGCCCGTTTGCTGGAGTGCC 1080
ACAGCCCCCATCCATATCTCCGATGGTGGAGGACCCCTCGATACTAAGAGAGTGTGGACA 1140
GTCCAAAAAAGGCTAGAACAAATTCATAAGGCTATGACTCCTGAACTTCAATACCACCCC 1200
TTAGCCCTGCCCAAAGTCAGAGATGACCTTAGCCTTGATGCACGGACTTTTGATATCCTG 1260
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GACTTAGGTGCAGTCACCTTTACTAACTGCACCTCTGTAGCCAATGTCAGTAGTCCTTTA 1560
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Fig.4
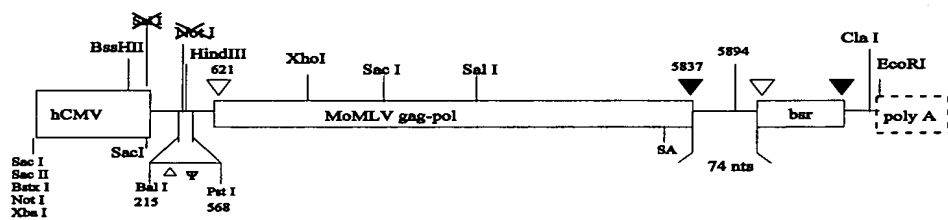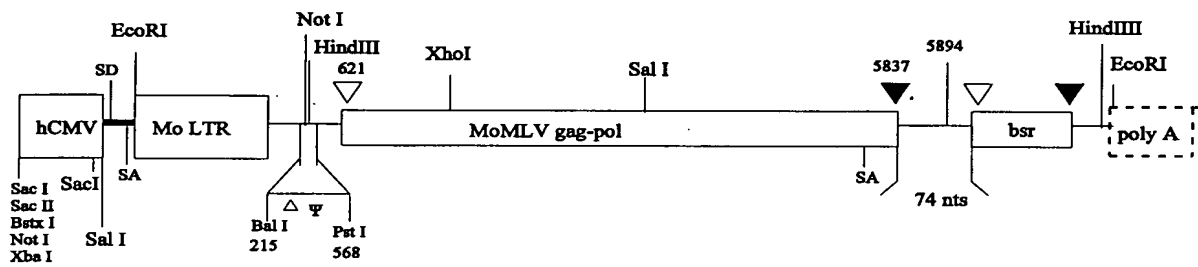
CeB
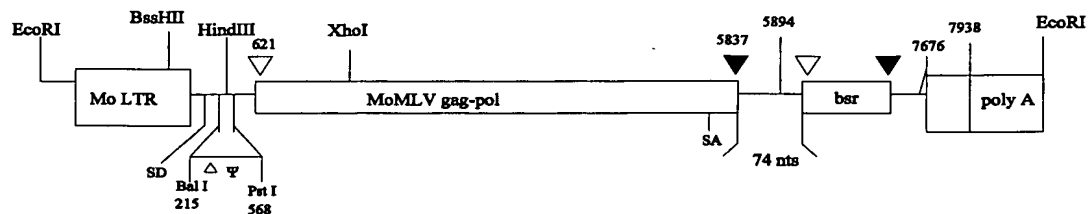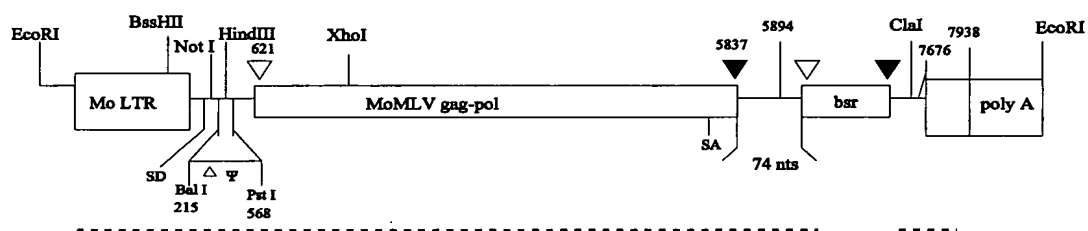
CeB DS-

hCMV-intron

Figure 5. Genetic structure of gag-pol constructs (page 1/3)

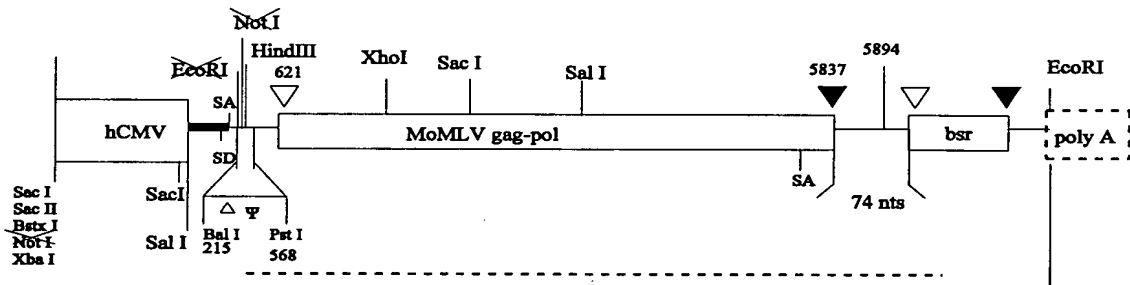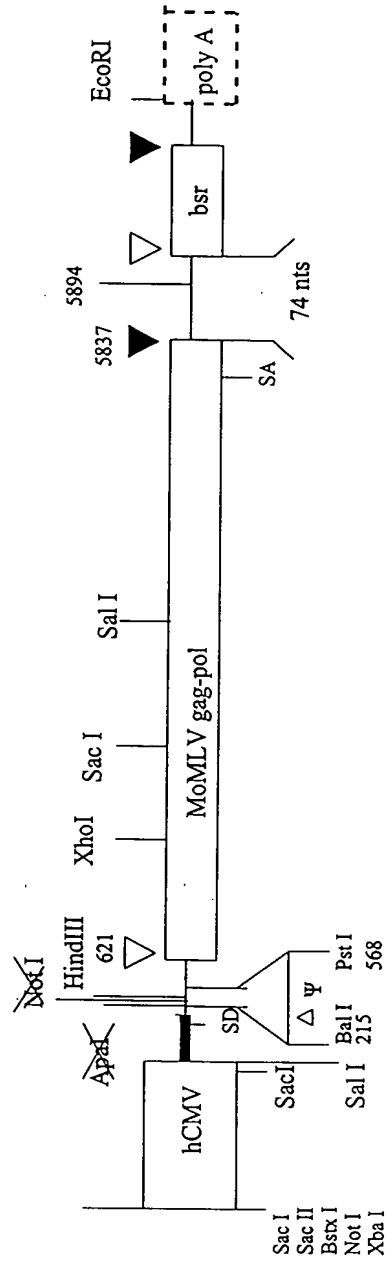**hCMV-intron 2P**

**hCMV + intron ,
hCMV + intronkaSD**

Figure 5. Genetic structure of gal-pol constructs (page 2/3)

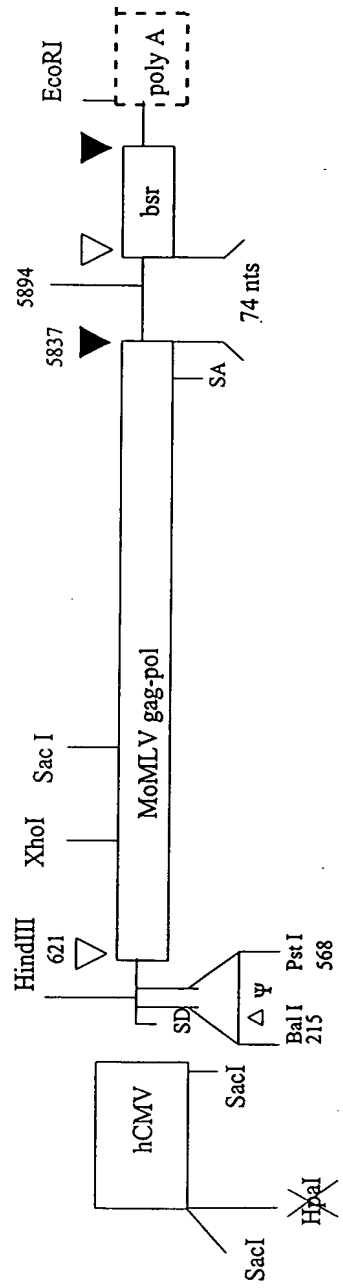**hCMV +SD intron**

hCMV + leader

Figure 5. Genetic Structure of gag-pol constructs (page 3/3)

Figure 6a. CeB Sequence

```
AATGAAAGAC CCCACCTGTA GGTTTGGCAA GCTAGCTTAA GTAACGCCAT TTTGCAAGGC    60
ATGGAAAAAT ACATAACTGA GAATAGAGAA GTTCAGATCA AGGTCAGGAA CAGATGGAAC   120
AGCTGAATAT GGGCCAAACA GGATATCTGT GGTAAGCAGT TCCTGCCCCG GCTCAGGGCC   180
AAGAACAGAT GGAACAGCTG AATATGGGCC AAACAGGATA TCTGTGGTAA GCAGTTCCTG   240
CCCCGGCTCA GGGCCAAGAA CAGATGGTCC CCAGATGCGG TCCAGCCCTC AGCAGTTTCT   300
AGAGAACCAT CAGATGTTTC CAGGGTGCCC CAAGGACCTG AAATGACCCT GTGCCTTATT   360
TGAACTAACC AATCAGTTCG CTTCTCGCTT CTGTTCGCGC GCTTCTGCTC CCCGAGCTCA   420
ATAAAAGAGC CCACAACCCC TCACTCGGGG CGCCAGTCCT CCGATTGACT GAGTCGCCCG   480
GGTACCCGTG TATCCAATAA ACCCTCTTGC AGTTGCATCC GACTTGTGGT CTCGCTGTTC   540
CTTGGGAGGG TCTCCTCTGA GTGATTGACT ACCCGTCAGC GGGGGTCTTT CATTTGGGGG   600
CTCGTCCGGG ATCGGGAGAC CCCTGCCCAG GGACCACCGA CCCACCACCG GGAGGTAAGC   660
TGGAAGCTTC TGCACGCATCG TTCTGTGTTG TCTCTGTCTG ACTGTGTTTC TGTATTTGTC   720
TGAGAATATG GGCCAGACTG TTACCACTCC CTTAAGTTTG ACCTTAGGTC ACTGGAAAGA   780
TGTCGAGCGG ATCGCTCACA ACCAGTCGGT AGATGTCAAG AAGAGACGTT GGGTTACCTT   840
CTGCTCTGCA GAATGGCCAA CCTTTAACGT CGGATGGCCG CGAGACGGCA CCTTTAACCG   900
AGACCTCATC ACCCAGGTTA AGATCAAGGT CTTTTCACCT GGCCCGCATG GACACCCAGA   960
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TGAACCTCCT CGTTCGACCC CGCCTCGATC CTCCCTTTAT CCAGCCCTCA CTCCTTCTCT  1140
AGGCGCCAAA CCTAAACCTC AAGTTCTTTC TGACAGTGGG GGGCCGCTCA TCGACCTACT  1200
TACAGAAGAC CCCCCGCCTT ATAGGGACCC AAGACCACCC CCTTCCGACA GGGACGGAAA  1260
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ACAAGGGCCC AATGAGTCTC CCTCGGCCTT CCTAGAGAGA CTTAAGGAAG CCTATCGCAG  1860
GTACACTCCT TATGACCCTG AGGACCCAGG GCAAGAAACT AATGTGTCTA TGTCTTTCAT  1920
TTGGCAGTCT GCCCCAGACA TTGGGAGAAA GTTAGAGAGG TTAGAAGATT TAAAAAACAA  1980
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CAAGAAACCA CGAGGACCTC GGGGACCAAG ACCCCAGACC TCCCTCCTGA CCCTAGATGA  2340
CTAGGGAGGT CAGGGTCAGG AGCCCCCCCC TGAACCCAGG ATAACCCTCA AAGTCGGGGG  2400
GCAACCCGTC ACCTTCCTGG TAGATACTGG GGCCCAACAC TCCGTGCTGA CCCAAAATCC  2460
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CTGGACCACG GATCGCAAAG TACATCTAGC TACCGGTAAG GTCACCCACT CTTTCCTCCA  2580
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AATCCACTTT GAGGGATCAG GAGCTCAGGT TATGGGACCA ATGGGGCAGC CCCTGCAAGT  2700
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ACTCCACCCC ACCAGTCAGC CTCTCTTCGC CTTTGAGTGG AGAGATCCAG AGATGGGAAT  3240
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AATGGCAGCC CCTTGTACC CTCTCACCAA AACGGGGACT CTGTTTAATT GGGGCCCAGA  3720
CCAACAAAAG GCCTATCAAG AAATCAAGCA AGCTCTTCTA ACTGCCCCAG CCCTGGGGTT  3780
GCCAGATTTG ACTAAGCCCT TTGAACTCTT TGTCGACGAG AAGCAGGGCT ACGCCAAAGG  3840
TGTCCTAACG CAAAAACTGG GACCTTGGCG TCGGCCGGTG GCCTACCTGT CCAAAAAGCT  3900
AGACCCAGTA GCAGCTGGGT GGCCCCCTTG CCTACGGATG GTAGCAGCCA TTGCCGTACT  3960
GACAAAGGAT GCAGGCAAGC TAACCATGGG ACAGCCACTA GTCATTCTGG CCCCCCATGC  4020
AGTAGAGGCA CTAGTCAAAC AACCCCCCGA CCGCTGGCTT TCCAACGCCC GGATGACTCA  4080
```

Figure 6b. CeB Sequence

```
CTATCAGGCC TTGCTTTTGG ACACGGACCG GGTCCAGTTC GGACCGGTGG TAGCCCTGAA    4140
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GGCCGAAGCC CACGGAACCC GACCCGACCT AACGGACCAG CCGCTCCCAG ACGCCGACCA    4260
CACCTGGTAC ACGGATGGAA GCAGTCTCTT ACAAGAGGGA CAGCGTAAGG CGGGAGCTGC    4320
GGTGACCACC GAGACCGAGG TAATCTGGGC TAAAGCCCTG CCAGCCGGGA CATCCGCTCA    4380
GCGGGCTGAA CTGATAGCAC TCACCCAGGC CCTAAAGATG GCAGAAGGTA AGAAGCTAAA    4440
TGTTTATACT GATAGCCGTT ATGCTTTTGC TACTGCCCAT ATCCATGGAG AAATATACAG    4500
AAGGCGTGGG TTGCTCACAT CAGAAGGCAA AGAGATCAAA AATAAAGACG AGATCTTGGC    4560
CCTACTAAAA GCCCTCTTTC TGCCCAAAAG ACTTAGCATA ATCCATTGTC CAGGACATCA    4620
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GATAAAGCCC GGATTGTATG GCTATAAATA TCTTCTAGTT TTTATAGATA CCTTTTCTGG    5160
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Figure 7a. HCMV+intron Sequence

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CGTTTTGCGC TGCTTCGCGA TGTACGGGCC AGATATACGC GTTGACATTG ATTATTGACT     240
AGTTATTAAT AGTAATCAAT TACGGGGTCA TTAGTTCATA GCCCATATAT GGAGTTCCGC     300
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ACGTCAATAA TGACGTATGT TCCCATAGTA ACGCCAATAG GGACTTTCCA TTGACGTCAA     420
TGGGTGGACT ATTTACGGTA AACTGCCCAC TTGGCAGTAC ATCAAGTGTA TCATATGCCA     480
AGTACGCCCC CTATTGACGT CAATGACGGT AAATGGCCCG CCTGGCATTA TGCCCAGTAC     540
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CCCTTTGTAC ACCCTAAGCC TCCGCCTCCT CTTCCTCCAT CCGCCCCGTC TCTCCCCCTT    1920
GAACCTCCTC GTTCGACCCC GCCTCGATCC TCCCTTTATC CAGCCCTCAC TCCTTCTCTA    1980
GGCGCCAAAC CTAAACCTCA AGTTCTTTCT GACAGTGGGG GGCCGCTCAT CGACCTACTT    2040
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AAAAATAATA ACCCTTCTTT TTCTGAAGAT CCAGGTAAAC TGACAGCTCT GATCGAGTCT    2340
GTTCTCATCA CCCATCAGCC CACCTGGGAC GACTGTCAGC AGCTGTTGGG GACTCTGCTG    2400
ACCGGAGAAG AAAAACAACG GGTGCTCTTA GAGGCTAGAA AGGCGGTGCG GGGCGATGAT    2460
GGGCGCCCCA CTCAACTGCC CAATGAAGTC GATGCCGCTT TTCCCCTCGA GCGCCCAGAC    2520
TGGGATTACA CCACCCAGGC AGGTAGGAAC CACCTAGTCC ACTATCGCCA GTTGCTCCTA    2580
GCGGGTCTCC AAAACGCGGG CAGAAGCCCC ACCAATTTGG CCAAGGTAAA AGGAATAACA    2640
CAAGGGCCCA ATGAGTCTCC CTCGGCCTTC CTAGAGAGAC TTAAGGAAGC CTATCGCAGG    2700
TACACTCCTT ATGACCCTGA GGACCCAGGG CAAGAAACTA ATGTGTCTAT GTCTTTCATT    2760
TGGCAGTCTG CCCCAGACAT TGGGAGAAAG TTAGAGAGGT TAGAAGATTT AAAAAACAAG    2820
ACGCTTGGAG ATTTGGTTAG AGAGGCAGAA AAGATCTTTA ATAAACGAGA AACCCCGGAA    2880
GAAAGAGAGG AACGTATCAG GAGAGAAACA GAGGAAAAAG AAGAACGCCG TAGGACAGAG    2940
GATGAGCAGA AAGAGAAAGA AAGAGATCGT AGGAGACATA GAGAGATGAG CAAGCTATTG    3000
GCCACTGTCG TTAGTGGACA GAAACAGGAT AGACAGGGAG GAGAACGAAG GAGGTCCCAA    3060
CTCGATCGCG ACCAGTGTGC CTACTGCAAA GAAAAGGGGC ACTGGGCTAA AGATTGTCCC    3120
AAGAAACCAC GAGGACCTCG GGGACCAAGA CCCCAGACCT CCCTCCTGAC CCTAGATGAC    3180
TAGGGAGGTC AGGGTCAGGA GCCCCCCCCT GAACCCAGGA TAACCCTCAA AGTCGGGGGG    3240
CAACCCGTCA CCTTCCTGGT AGATACTGGG GCCCAACACT CCGTGCTGAC CCAAAATCCT    3300
GGACCCCTAA GTGATAAGTC TGCCTGGGTC CAAGGGGCTA CTGGAGGAAA GCGGTATCGC    3360
TGGACCACGG ATCGCAAAGT ACATCTAGCT ACCGGTAAGG TCACCCACTC TTTCCTCCAT    3420
GTACCAGACT GTCCCTATCC TCTGTTAGGA AGAGATTTGC TGACTAAACT AAAAGCCCAA    3480
ATCCACTTTG AGGGATCAGG AGCTCAGGTT ATGGGACCAA TGGGGCAGCC CCTGCAAGTG    3540
TTGACCCTAA ATATAGAAGA TGAGCATCGG CTACATGAGA CCTCAAAAGA GCCAGATGTT    3600
TCTCTAGGGT CCACATGGCT GTCTGATTTT CCTCAGGCCT GGGCGGAAAC CGGGGGCATG    3660
GGACTGGCAG TTCGCCAAGC TCCTCTGATC ATACCTCTGA AAGCAACCTC TACCCCCGTG    3720
TCCATAAAAC AATACCCCAT GTCACAAGAA GCCAGACTGG GGATCAAGCC CCACATACAG    3780
AGACTGTTGG ACCAGGGAAT ACTGGTACCC TGCCAGTCCC CCTGGAACAC GCCCCTGCTA    3840
CCCGTTAAGA AACCAGGGAC TAATGATTAT AGGCCTGTCC AGGATCTGAG GCCCCTGCTA    3900
AAGCGGGTGG AAGACATCCA CCCCACCGTG CCCAACCCTT ACAACCTCTT GAGCGGGCTC    3960
CCACCGTCCC ACCAGTGGTA CACTGTGCTT GATTTAAAGG ATGCCTTTTT CTGCCTGAGA    4020
CTCCACCCCA CCAGTCAGCC TCTCTTCGCC TTTGAGTGGA GAGATCCAGA GATGGGAATC    4080
```

Figure 7b. hCMV+intron Sequence

```
TCAGGACAAT TGACCTGGAC CAGACTCCCA CAGGGTTTCA AAAACAGTCC CACCCTGTTT    4140
GATGAGGCAC TGCACAGAGA CCTAGCAGAC TTCCGGATCC AGCACCCAGA CTTGATCCTG    4200
CTACAGTACG TGGATGACTT ACTGCTGGCC GCCACTTCTG AGCTAGACTG CCAACAAGGT    4260
ACTCGGGCCC TGTTACAAAC CCTAGGGAAC CTCGGGTATC GGGCCTCGGC CAAGAAAGCC    4320
CAAATTTGCC AGAAACAGGT CAAGTATCTG GGGTATCTTC TAAAAGAGGG TCAGAGATGG    4380
CTGACTGAGG CCAGAAAAGA GACTGTGATG GGGCAGCCTA CTCCGAAGAC CCCTCGACAA    4440
CTAAGGGAGT TCCTAGGGAC GGCAGGCTTC TGTCGCCTCT GGATCCCTGG GTTTGCAGAA    4500
ATGGCAGCCC CCTTGTACCC TCTCACCAAA ACGGGGACTC TGTTTAATTG GGGCCCAGAC    4560
CAACAAAAGG CCTATCAAGA AATCAAGCAA GCTCTTCTAA CTGCCCCAGC CCTGGGGTTG    4620
CCAGATTTGA CTAAGCCCTT TGAACTCTTT GTCGACGAGA AGCAGGGCTA CGCCAAAGGT    4680
GTCCTAACGC AAAAACTGGG ACCTTGGCGT CGGCCGGTGG CCTACCTGTC CAAAAAGCTA    4740
GACCCAGTAG CAGCTGGGTG GCCCCCTTGC CTACGGATGG TAGCAGCCAT TGCCGTACTG    4800
ACAAAGGATG CAGGCAAGCT AACCATGGGA CAGCCACTAG TCATTCTGGC CCCCCATGCA    4860
GTAGAGGCAC TAGTCAAACA ACCCCCCGAC CGCTGGCTTT CCAACGCCCG GATGACTCAC    4920
TATCAGGCCT TGCTTTTGGA CACGGACCGG GTCCAGTTCG GACCGGTGGT AGCCCTGAAC    4980
CCGGCTACGC TGCTCCCACT GCCTGAGGAA GGGCTGCAAC ACAACTGCCT TGATATCCTG    5040
GCCGAAGCCC ACGGAACCCG ACCCGACCTA ACGGACCAGC CGCTCCCAGA CGCCGACCAC    5100
ACCTGGTACA CGGATGGAAG CAGTCTCTTA CAAGAGGGAC AGCGTAAGGC GGGAGCTGCG    5160
GTGACCACCG AGACCGAGGT AATCTGGGCT AAAGCCCTGC CAGCCGGGAC ATCCGCTCAG    5220
CGGGCTGAAC TGATAGCACT CACCCAGGCC CTAAAGATGG CAGAAGGTAA GAAGCTAAAT    5280
GTTTATACTG ATAGCCGTTA TGCTTTTGCT ACTGCCCATA TCCATGGAGA AATATACAGA    5340
AGGCGTGGGT TGCTCACATC AGAAGGCAAA GAGATCAAAA ATAAAGACGA GATCTTGGCC    5400
CTACTAAAAG CCCTCTTTCT GCCCAAAAGA CTTAGCATAA TCCATTGTCC AGGACATCAA    5460
AAGGGACACA GCGCCGAGGC TAGAGGCAAC CGGATGGCTG ACCAAGCGGC CGAAAGGCA    5520
GCCATCACAG AGACTCCAGA CACCTCTACC CTCCTCATAG AAAATTCATC ACCCTACACC    5580
TCAGAACATT TTCATTACAC AGTGACTGAT ATAAAGGACC TAACCAAGTT GGGGGGCCATT    5640
TATGATAAAA CAAAGAAGTA TTGGGTCTAC CAAGGAAAAC CTGTGATGCC TGACCAGTTT    5700
ACTTTTGAAT TATTAGACTT TCTTCATCAG CTGACTCACC TCAGCTTCTC AAAAATGAAG    5760
GCTCTCCTAG AGAGAAGCCA CAGTCCCTAC TACATGCTGA ACCGGGATCG AACACTCAAA    5820
AATATCACTG AGACCTGCAA AGCTTGTGCA CAAGTCAACG CCAGCAAGTC TGCCGTTAAA    5880
CAGGGAACTA GGGTCCGCGG GCATCGGCCC GGCACTCATT GGGAGATCGA TTTCACCGAG    5940
ATAAAGCCCG GATTGTATGG CTATAAATAT CTTCTAGTTT TTATAGATAC CTTTTCTGGC    6000
TGGATAGAAG CCTTCCCAAC CAAGAAAGAA ACCGCCAAGG TCGTAACCAA GAAGCTACTA    6060
GAGGAGATCT TCCCCAGGTT CGGCATGCCT CAGGTATTGG GAACTGACAA TGGGCCTGCC    6120
TTCGTCTCCA AGGTGAGTCA GACAGTGGCC GATCTGTTGG GGATTGATTG GAAATTACAT    6180
TGTGCATACA GACCCCAAAG CTCAGGCCAG GTAGAAAGAA TGAATAGAAC CATCAAGGAG    6240
ACTTTAACTA AATTAACGCT TGCAACTGGC TCTAGAGACT GGGTGCTCCT ACTCCCCTTA    6300
GCCCTGTACC GAGCCCGCAA CACGCCGGGC CCCCATGGCC TCACCCCATA TGAGATCTTA    6360
TATGGGGCAC CCCCGCCCCT TGTAAACTTC CCTGACCCTG ACATGACAAG AGTTACTAAC    6420
AGCCCCTCTC TCCAAGCTCA CTTACAGGCT CTCTACTTAG TCCAGCACGA AGTCTGGAGA    6480
CCTCTGGCGG CAGCCTACCA AGAACAACTG GACCGACCGG TGGTACCTCA CCCTTACCGA    6540
GTCGGCGACA CAGTGTGGGT CCGCCGACAC CAGACTAAGA ACCTAGAACC TCGCTGGAAA    6600
GGACCTTACA CAGTCCTGCT GACCACCCCC ACCGCCCTCA AAGTAGACGG CATCGCAGCT    6660
TGGATACACG CCGCCCACGT GAAGGCTGCC GACCCCGGGG GTGGACCATC CTCTAGACTG    6720
ACATGGCGCG TTCAACGCTC TCAAAACCCC TTAAAAATAA GGTTAACCCG CGAGGCCCCC    6780
TAATCCCTT AATTCTTCTG ATGCTCAGAG GGGTCAGTAC TGCTTCGCCC GGCTCCAGTG    6840
CGGCCCAGCC GGCCACCATG AAAACATTTA ACATTTCTCA ACAAGATCTA GAATTAGTAG    6900
AAGTAGCGAC AGAGAAGATT ACAATGCTTT ATGAGGATAA TAAACATCAT GTGGGAGCGG    6960
CAATTCGTAC GAAAACAGGA GAAATCATTT CGGCAGTACA TATTGAAGCG TATATAGGAC    7020
GAGTAACTGT TTGTGCAGAA GCCATTGCGA TTGGTAGTGC AGTTTCGAAT GGACAAAAGG    7080
ATTTTGACAC GATTGTAGCT GTTAGACACC CTTATTCTGA CGAAGTAGAT AGAAGTATTC    7140
GAGTGGTAAG TCCTTGTGGT ATGTGTAGGG AGTTGATTTC AGACTATGCA CCAGATTGTT    7200
TTGTGTTAAT AGAAATGAAT GGCAAGTTAG TCAAAACTAC GATTGAAGAA CTCATTCCAC    7260
TCAAATATAC CCGAAATTAA AAGTTTTACC ACCAAGCTTA TCGAATTC                 7308
```

Figure 8a. hCMV+intronkaSD Sequence

```
AGATCTCCCG ATCCCCTATG GTCGACTCTC AGTACAATCT GCTCTGATGC CGCATAGTTA      60
AGCCAGTATC TGCTCCCTGC TTGTGTGTTG GAGGTCGCTG AGTAGTGCGC GAGCAAAATT     120
TAAGCTACAA CAAGGCAAGG CTTGACCGAC AATTGCATGA AGAATCTGCT TAGGGTTAGG     180
CGTTTTGCGC TGCTTCGCGA TGTACGGGCC AGATATACGC GTTGACATTG ATTATTGACT     240
AGTTATTAAT AGTAATCAAT TACGGGGTCA TTAGTTCATA GCCCATATAT GGAGTTCCGC     300
GTTACATAAC TTACGGTAAA TGGCCCGCCT GGCTGACCGC CCAACGACCC CCGCCCATTG     360
ACGTCAATAA TGACGTATGT TCCCATAGTA ACGCCAATAG GGACTTTCCA TTGACGTCAA     420
TGGGTGGACT ATTTACGGTA AACTGCCCAC TTGGCAGTAC ATCAAGTGTA TCATATGCCA     480
AGTACGCCCC CTATTGACGT CAATGACGGT AAATGGCCCG CCTGGCATTA TGCCCAGTAC     540
ATGACCTTAT GGGACTTTCC TACTTGGCAG TACATCTACG TATTAGTCAT CGCTATTACC     600
ATGGTGATGC GGTTTTGGCA GTACATCAAT GGGCGTGGAT AGCGGTTTGA CTCACGGGGA     660
TTTCCAAGTC TCCACCCCAT TGACGTCAAT GGGAGTTTGT TTTGGCACCA AAATCAACGG     720
GACTTTCCAA AATGTCGTAA CAACTCCGCC CCATTGACGC AAATGGGCGG TAGGCGTGTA     780
CGGTGGGAGG TCTATATAAG CAGAGCTCTC TGGCTAACTA GAGAACCCAC TGCTTAACTG     840
GCTTATCGAA ATGTCGACTG AGAACTTCAG GGTGAGTTTG GGGACCCTTG ATTGTTCTTT     900
CTTTTTCGCT ATTGTAAAAT TCATGTTATA TGGAGGGGGC AAAGTTTTCA GGGTGTTGTT    960
TAGAATGGGA AGATGTCCCT TGTATCACCA TGGACCCTCA TGATAATTTT GTTTCTTTCA   1020
CTTTCTACTC TGTTGACAAC CATTGTCTCC TCTTATTTTC TTTTCATTTT CTGTAACTTT   1080
TTCGTTAAAC TTTAGCTTGC ATTTGTAACG AATTTTTAAA TTCACTTTTG TTTATTTGTC   1140
AGATTGTAAG TACTTTCTCT AATCACTTTT TTTTCAAGGC AATCAGGGTA TATTATATTG   1200
TACTTCAGCA CAGTTTTAGA GAACAATTGT TATAATTAAA TGATAAGGTA GAATATTTCT   1260
GCATATAAAT TCTGGCTGGC GTGGAAATAT TCTTATTGGT AGAAACAACT ACATCCTGGT   1320
CATCATCCTG CCTTTCTCTT TATGGTTACA ATGATATACA CTGTTTGAGA TGAGGATAAA   1380
ATACTCTGAG TCCAAACCGG GCCCCTCTGC TAACCATGTT CATGCCTTCT TCTTTTTCCT   1440
ACAGCTCCTG GGCAACGTGC TGGTTGTTGT GCTGTCTCAT CATTTTGGCA AGAATTGGCC   1500
GCAAGCTTCT GCAGCATCGT TCTGTGTTGT CTCTGTCTGA CTGTGTTTCT GTATTTGTCT   1560
GAGAATATGG GCCAGACTGT TACCACTCCC TTAAGTTTGA CCTTAGGTCA CTGGAAAGAT   1620
GTCGAGCGGA TCGCTCACAA CCAGTCGGTA GATGTCAAGA AGAGACGTTG GGTTACCTTC   1680
TGCTCTGCAG AATGGCCAAC CTTTAACGTC GGATGGCCGC GAGACGGCAC CTTTAACCGA   1740
GACCTCATCA CCCAGGTTAA GATCAAGGTC TTTTCACCTG GCCCGCATGG ACACCCAGAC   1800
CAGGTCCCCT ACATCGTGAC CTGGGAAGCC TTGGCTTTTG ACCCCCCTCC CTGGGTCAAG   1860
CCCTTTGTAC ACCCTAAGCC TCCGCCTCCT CTTCCTCCAT CCGCCCCGTC TCTCCCCCTT   1920
GAACCTCCTC GTTCGACCCC GCCTCGATCC TCCCTTTATC CAGCCCTCAC TCCTTCTCTA   1980
GGCGCCAAAC CTAAACCTCA AGTTCTTTCT GACAGTGGGG GGCCGCTCAT CGACCTACTT   2040
ACAGAAGACC CCCCGCCTTA TAGGGACCCA AGACCACCCC CTTCCGACAG GGACGGAAAT   2100
GGTGGAGAAG CGACCCCTGC GGGAGAGGCA CCGGACCCCT CCCCAATGGC ATCTCGCCTA   2160
CGTGGGAGAC GGGAGCCCCC TGTGGCCGAC TCCACTACCT CGCAGGCATT CCCCCTCCGC   2220
GCAGGAGGAA ACGGACAGCT TCAATACTGG CCGTTCTCCT CTTCTGACCT TTACAACTGG   2280
AAAAATAATA ACCCTTCTTT TTCTGAAGAT CCAGGTAAAC TGACAGCTCT GATCGAGTCT   2340
GTTCTCATCA CCCATCAGCC CACCTGGGAC GACTGTCAGC AGCTGTTGGG GACTCTGCTG   2400
ACCGGAGAAG AAAAACAACG GGTGCTCTTA GAGGCTAGAA AGGCGGTGCG GGGCGATGAT   2460
GGGCGCCCCA CTCAACTGCC CAATGAAGTC GATGCCGCTT TTCCCCTCGA GCGCCCAGAC   2520
TGGGATTACA CCACCCAGGC AGGACGCAAC CACCTAGTCC ACTATCGCCA GTTGCTCCTA   2580
GCGGGTCTCC AAAACGCGGG CAGAAGCCCC ACCAATTTGG CCAAGGTAAA AGGAATAACA   2640
CAAGGGCCCA ATGAGTCTCC CTCGGCCTTC CTAGAGAGAC TTAAGGAAGC CTATCGCAGG   2700
TACACTCCTT ATGACCCTGG GGACCCAGGG CAAGAAACTA ATGTGTCTAT GTCTTTCATT   2760
TGGCAGTCTG CCCCAGACAT TGGGAGAAAG TTAGAGAGGT TAGAAGATTT AAAAAACAAG   2820
ACGCTTGGAG ATTTGGTTAG AGAGGCAGAA AAGATCTTTA ATAAACGAGA AACCCCGGAA   2880
GAAAGAGAGG AACGTATCAG GAGAGAAACA GAGGAAAAAG AAGAACGCCG.TAGGACAGAG   2940
GATGAGCAGA AAGAGAAAGA AAGAGATCGT AGGAGACATA GAGAGATGAG CAAGCTATTG   3000
GCCACTGTCG TTAGTGGACA GAAACAGGAT AGACAGGGAG GAGAACGAAG GAGGTCCCAA   3060
CTCGATCGCG ACCAGTGTGC CTACTGCAAA GAAAAGGGGC ACTGGGCTAA AGATTGTCCC   3120
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TAGGGAGGTC AGGGTCAGGA GCCCCCCCCT GAACCCAGGA TAACCCTCAA AGTCGGGGGG   3240
CAACCCGTCA CCTTCCTGGT AGATACTGGG GCCCAACACT CCGTGCTGAC CCAAAATCCT   3300
GGACCCCTAA GTGATAAGTC TGCCTGGGTC CAAGGGGCTA CTGGAGGAAA GCGGTATCGC   3360
TGGACCACGG ATCGCAAAGT ACATCTAGCT ACCGGTAAGG TCACCCACTC TTTCCTCCAT   3420
GTACCAGACT GTCCCTATCC TCTGTTAGGA AGAGATTTGC TGACTAAAACT AAAAGCCCAA   3480
ATCCACTTTG AGGGATCAGG AGCTCAGGTT ATGGGACCAA TGGGGCAGCC CCTGCAAGTG   3540
TTGACCCTAA ATATAGAAGA TGAGCATCGG CTACATGAGA CCTCAAAAGA GCCAGATGTT   3600
TCTCTAGGGT CCACATGGCT GTCTGATTTT CCTCAGGCCT GGGCGGAAAC CGGGGGCATG   3660
GGACTGGCAG TTCGCCAAGC TCCTCTGATC ATACCTCTGA AAGCAACCTC TACCCCCGTG   3720
TCCATAAAAC AATACCCCAT GTCACAAGAA GCCAGACTGG GGATCAAGCC CCACATACAG   3780
AGACTGTTGG ACCAGGGAAT ACTGGTACCC TGCCAGTCCC CCTGGAACAC GCCCCTGCTA   3840
CCCGTTAAGA AACCAGGGAC TAATGATTAT AGGCCTGTCC AGGATCTGAG AGAAGTCAAC   3900
AAGCGGGTGG AAGACATCCA CCCCACCGTG CCCAACCCTT ACAACCTCTT GAGCGGGCTC   3960
CCACCGTCCC ACCAGTGGTA CACTGTGCTT GATTTAAAGG ATGCCTTTTT CTGCCTGAGA   4020
CTCCACCCCA CCAGTCAGCC TCTCTTCGCC TTTGAGTGGA GAGATCCAGA GATGGGAATC   4080
```

Figure 8b. hCMV+intronkaSD Sequence

```
TCAGGACAAT TGACCTGGAC CAGACTCCCA CAGGGTTTCA AAAACAGTCC CACCCTGTTT    4140
GATGAGGCAC TGCACAGAGA CCTAGCAGAC TTCCGGATCC AGCACCCAGA CTTGATCCTG    4200
CTACAGTACG TGGATGACTT ACTGCTGGCC GCCACTTCTG AGCTAGACTG CCAACAAGGT    4260
ACTCGGGCCC TGTTACAAAC CCTAGGGAAC CTCGGGTATC GGGCCTCGGC CAAGAAAGCC    4320
CAAATTTGCC AGAAACAGGT CAAGTATCTG GGGTATCTTC TAAAAGAGGG TCAGAGATGG    4380
CTGACTGAGG CCAGAAAAGA GACTGTGATG GGGCAGCCTA CTCCGAAGAC CCCTCGACAA    4440
CTAAGGGAGT TCCTAGGGAC GGCAGGCTTC TGTCGCCTCT GGATCCCTGG GTTTGCAGAA    4500
ATGGCAGCCC CCTTGTACCC TCTCACCAAA ACGGGGACTC TGTTTAATTG GGGCCCAGAC    4560
CAACAAAAGG CCTATCAAGA AATCAAGCAA GCTCTTCTAA CTGCCCCAGC CCTGGGGTTG    4620
CCAGATTTGA CTAAGCCCTT TGAACTCTTT GTCGACGAGA AGCAGGGCTA CGCCAAAGGT    4680
GTCCTAACGC AAAAACTGGG ACCTTGGCGT CGGCCGGTGG CCTACCTGTC CAAAAAGCTA    4740
GACCCAGTAG CAGCTGGGTG GCCCCCTTGC CTACGGATGG TAGCAGCCAT TGCCGTACTG    4800
ACAAAGGATG CAGGCAAGCT AACCATGGGA CAGCCACTAG TCATTCTGGC CCCCCATGCA    4860
GTAGAGGCAC TAGTCAAACA ACCCCCCGAC CGCTGGCTTT CCAACGCCCG GATGACTCAC    4920
TATCAGGCCT TGCTTTTGGA CACGGACCGG GTCCAGTTCG GACCGGTGGT AGCCCTGAAC    4980
CCGGCTACGC TGCTCCCACT GCCTGAGGAA GGGCTGCAAC ACAACTGCCT TGATATCCTG    5040
GCCGAAGCCC ACGGAACCCG ACCCGACCTA ACGGACCAGC CGCTCCCAGA CGCCGACCAC    5100
ACCTGGTACA CGGATGGAAG CAGTCTCTTA CAAGAGGGAC AGCGTAAGGC GGGAGCTGCG    5160
GTGACCACCG AGACCGAGGT AATCTGGGCT AAAGCCCTGC CAGCCGGGAC ATCCGCTCAG    5220
CGGGCTGAAC TGATAGCACT CACCCAGGCC CTAAAGATGG CAGAAGGTAA GAAGCTAAAT    5280
GTTTATACTG ATAGCCGTTA TGCTTTTGCT ACTGCCCATA TCCATGGAGA AATATACAGA    5340
AGGCGTGGGT TGCTCACATC AGAAGGCAAA GAGATCAAAA ATAAAGACGA GATCTTGGCC    5400
CTACTAAAAG CCCTCTTTCT GCCCAAAAGA CTTAGCATAA TCCATTGTCC AGGACATCAA    5460
AAGGGACACA GCGCCGAGGC TAGAGGCAAC CGGATGGCTG ACCAAGCGGC CCGAAAGGCA    5520
GCCATCACAG AGACTCCAGA CACCTCTACC CTCCTCATAG AAAATTCATC ACCCTACACC    5580
TCAGAACATT TTCATTACAC AGTGACTGAT ATAAAGGACC TAACCAAGTT GGGGGCCATT    5640
TATGATAAAA CAAAGAAGTA TTGGGTCTAC CAAGGAAAAC CTGTGATGCC TGACCAGTTT    5700
ACTTTTGAAT TATTAGACTT TCTTCATCAG CTGACTCACC TCAGCTTCTC AAAAATGAAG    5760
GCTCTCCTAG AGAGAAGCCA CAGTCCCTAC TACATGCTGA ACCGGGATCG AACACTCAAA    5820
AATATCACTG AGACCTGCAA AGCTTGTGCA CAAGTCAACG CCAGCAAGTC TGCCGTTAAA    5880
CAGGGAACTA GGGTCCGCGG GCATCGGCCC GGCACTCATT GGGAGATCGA TTTCACCGAG    5940
ATAAAGCCCG GATTGTATGG CTATAAATAT CTTCTAGTTT TTATAGATAC CTTTTCTGGC    6000
TGGATAGAAG CCTTCCCAAC CAAGAAAGAA ACCGCCAAGG TCGTAACCAA GAAGCTACTA    6060
GAGGAGATCT TCCCCAGGTT CGGCATGCCT CAGGTATTGG GAACTGACAA TGGGCCTGCC    6120
TTCGTCTCCA AGGTGAGTCA GACAGTGGCC GATCTGTTGG GGATTGATTG GAAATTACAT    6180
TGTGCATACA GACCCCAAAG CTCAGGCCAG GTAGAAAGAA TGAATAGAAC CATCAAGGAG    6240
ACTTTAACTA AATTAACGCT TGCAACTGGC TCTAGAGACT GGGTGCTCCT ACTCCCCTTA    6300
GCCCTGTACC GAGCCCGCAA CACGCCGGGC CCCCATGGCC TCACCCCATA TGAGATCTTA    6360
TATGGGGCAC CCCCGCCCCT TGTAAACTTC CCTGACCCTG ACATGACAAG AGTTACTAAC    6420
AGCCCCTCTC TCCAAGCTCA CTTACAGGCT CTCTACTTAG TCCAGCACGA AGTCTGGAGA    6480
CCTCTGGCGG CAGCCTACCA AGAACAACTG GACCGACCGG TGGTACCTCA CCCTTACCGA    6540
GTCGGCGACA CAGTGTGGGT CCGCCGACAC CAGACTAAGA ACCTAGAACC TCGCTGGAAA    6600
GGACCTTACA CAGTCCTGCT GACCACCCCC ACCGCCCTCA AAGTAGACGG CATCGCAGCT    6660
TGGATACACG CCGCCCACGT GAAGGCTGCC GACCCCGGGG GTGGACCATC CTCTAGACTG    6720
ACATGGCGCG TTCAACGCTC TCAAAACCCC TTAAAAATAA GGTTAACCCG CGAGGCCCCC    6780
TAATCCCCTT AATTCTTCTG ATGCTCAGAG GGGTCAGTAC TGCTTCGCCC GGCTCCAGTG    6840
CGGCCCAGCC GGCCACCATG AAAACATTTA ACATTTCTCA ACAAGATCTA GAATTAGTAG    6900
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CAATTCGTAC GAAAACAGGA GAAATCATTT CGGCAGTACA TATTGAAGCG.TATATAGGAC    7020
GAGTAACTGT TTGTGCAGAA GCCATTGCGA TTGGTAGTGC AGTTTCGAAT GGACAAAAGG    7080
ATTTTGACAC GATTGTAGCT GTTAGACACC CTTATTCTGA CGAAGTAGAT AGAAGTATTC    7140
GAGTGGTAAG TCCTTGTGGT ATGTGTAGGG AGTTGATTTC AGACTATGCA CCAGATTGTT    7200
TTGTGTTAAT AGAAATGAAT GGCAAGTTAG TCAAAACTAC GATTGAAGAA CTCATTCCAC    7260
TCAAATATAC CCGAAATTAA AAGTTTTACC ACCAAGCTTA TCGAATTC                 7308
```

Figure 9a. FBdelPASAF Sequence

```
CATATGCGGT GTGAAATACC GCACAGATGC GTAAGGAGAA AATACCGCAT CAGGCGCCAT     60
TCGCCATTCA GGCTGCGCAA CTGTTGGGAA GGGCGATCGG TGCGGGCCTC TTCGCTATTA    120
CGCCAGCTGG CGAAAGGGGG ATGTGCTGCA AGGCGATTAA GTTGGGTAAC GCCAGGGTTT    180
TCCCAGTCAC GACGTTGTAA AACGACGGCC AGTGAATTCC GATTAGTTCA ATTTGTTAAA    240
GACAGGATCT CAGTAGTCCA GGCTTTAGTC CTGACTCAAC AATACCACCA GCTAAAACCA    300
CTAGAATACG AGCCACAATA AATAAAGAT  TTTATTTAGT TTCCAGAAAA AGGGGGGAAT    360
GAAAGACCCC ACCAAATTGC TTAGCCTGAT AGCCGCAGTA ACGCCATTTT GCAAGGCATG    420
GAAAAATACC AAACCAAGAA TAGAGAAGTT CAGATCAAGG GCGGGTACAC GAAAACAGCT    480
AACGTTGGGC CAAACAGGAT ATCTGCGGTG AGCAGTTTCG GCCCCGGCCC GGGGCCAAGA    540
ACAGATGGTC ACCGCGGTTC GGCCCCGGCC CGGGGCCAAG AACAGATGGT CCCCAGATAT    600
GGCCCAACCC TCAGCAGTTT CTTAAGACCC ATCAGATGTT TCCAGGCTCC CCCAAGGACC    660
TGAAATGACC CTGTGCCTTA TTTGAATTAA CCAATCAGCC TGCTTCTCGC TTCTGTTCGC    720
GCGCTTCTGC TTCCCGAGCT CTATAAAAGA GCTCACAACC CCTCACTCGG CGCGCCAGTC    780
CTCCGATAGA CTGAGTCGCC CGGGTACCCG TGTATCCAAT AAATCCTCTT GCTGTTGCAT    840
CCGACTCGTG GTCTCGCTGT TCCTTGGGAG GGTCTCCTCA GAGTGATTGA CTACCCGTCT    900
CGGGGGTCTT TCATTTGGGG GCTCGTCCGG GATCTGGAGA CCCCTGCCCA GGGACCACCG    960
ACCCACCACC GGGAGGTAAG CTGGCCAAGA TCTTATATGG GGCACCCCCG CCCCTTGTAA   1020
ACTTCCCTGA CCCTGACATG ACCAGAGTTA CTAACAGCCC CTCTCTCCAA GCTCACTTAC   1080
AGGCTCTCTA CTTAGTCCAG CACGAAGTTT GGAGACCACT GGCGGCAGCT TACCAAGAAC   1140
AACTGGACCG GCCGGTGGTG CCTCACCCTT ACCGGGTCGG CGACACAGTG TGGGTCCGCC   1200
GACATCAAAC CAAGAACCTA GAACCTCGCT GGAAAGGACC TTACACAGTC CTGCTGACCA   1260
CCCCCACCGC CCTCAAAGTA GACGGTATCG CAGCTTGGAT ACACGCAGCC CACGTAAAGG   1320
CGGCCGACAC CGAGAGTGGA CCATCCTCTG GACGGACATG GCGCGTTCAA CGCTCTCAAA   1380
ACCCCCTCAA GATAAGATTA ACCCGTGGAA GCCCTTAATA GTCATGGGAG TCCTGTTAGG   1440
AGTAGGGATG GCAGAGAGCC CCCATCAGGT CTTTAATGTA ACCTGGAGAG TCACCAACCT   1500
GATGACTGGG CGTACCGCCA ATGCCACCTC CCTCCTGGGA ACTGTACAAG ATGCCTTCCC   1560
AAAATTATAT TTTGATCTAT GTGATCTGGT CGGAGAGGAG TGGGACCCTT CAGACCAGGA   1620
ACCGTATGTC GGGTATGGCT GCAAGTACCC CGCAGGGAGA CAGCGGACCC GGACTTTTGA   1680
CTTTTACGTG TGCCCTGGGC ATACCGTAAA GTCGGGGTGT GGGGGACCAG GAGAGGGCTA   1740
CTGTGGTAAA TGGGGGTGTG AAACCACCGG ACAGGCTTAC TGGAAGCCCA CATCATCGTG   1800
GGACCTAATC TCCCTTAAGC GCGGTAACAC CCCCTGGGAC ACGGGATGCT CTAAAGTTGC   1860
CTGTGGCCCC TGCTACGACC TCTCCAAAGT ATCCAATTCC TTCCAAGGGG CTACTCGAGG   1920
GGGCAGATGC AACCCTCTAG TCCTAGAATT CACTGATGCA GGAAAAAAGG CTAACTGGGA   1980
CGGGCCCAAA TCGTGGGGAC TGAGACTGTA CCGGACAGGA ACAGATCCTA TTACCATGTT   2040
CTCCCTGACC CGGCAGGTCC TTAATGTGGG ACCCCGAGTC CCCATAGGGC CCAACCCAGT   2100
ATTACCCGAC CAAAGACTCC CTTCCTCACC AATAGAGATT GTACCGGCTC CACAGCCACC   2160
TAGCCCCCTC AATACCAGTT ACCCCCCTTC CACTACCAGT ACACCCTCAA CCTCCCCTAC   2220
AAGTCCAAGT GTCCCACAGC CACCCCCAGG AACTGGAGAT AGACTACTAG CTCTAGTCAA   2280
AGGAGCCTAT CAGGCGCTTA ACCTCACCAA TCCCGACAAG ACCCAAGAAT GTTGGCTGTG   2340
CTTAGTGTCG GGACCTCCTT ATTACGAAGG AGTAGCGGTC GTGGGCACTT ATACCAATCA   2400
TTCCACCGCT CCGGCCAACT GTACGGCCAC TTCCCAACAT AAGCTTACCC TATCTGAAGT   2460
GACAGGACAG GGCCTATGCA TGGGGGCAGT ACCTAAAACT CACCAGGCCT TATGTAACAC   2520
CACCCAAAGC GCCGGCTCAG GATCCTACTA CCTTGCAGCA CCCGCCGGAA CAATGTGGGC   2580
TTGCAGCACT GGATTGACTC CCTGCTTGTC CACCACGGTG CTCAATCTAA CCACAGATTA   2640
TTGTGTATTA GTTGAACTCT GGCCCAGAGT AATTTACCAC TCCCCCGATT ATATGTATGG   2700
TCAGCTTGAA CAGCGTACCA AATATAAAAG AGAGCCAGTA TCATTGACCC TGGCCCTTCT   2760
ACTAGGAGGA TTAACCATGG GAGGGATTGC AGCTGGAATA GGGACGGGGA CCACTGCCTT   2820
AATTAAAACC CAGCAGTTTG AGCAGCTTCA TGCCGCTATC CAGACAGACC TCAACGAAGT   2880
CGAAAAGTCA ATTACCAACC TAGAAAAGTC ACTGACCTCG TTGTCTGAAG TAGTCCTACA   2940
GAACCGCAGA GGCCTAGATT TGCTATTCCT AAAGGAGGGA GGTCTCTGCG CAGCCCTAAA   3000
AGAAGAATGT TGTTTTTATG CAGACCACAC GGGGCTAGTG AGAGACAGCA TGGCCAAATT   3060
AAGAGAAAGG CTTAATCAGA GACAAAAACT ATTTGAGACA GGCCAAGGAT GGTTCGAAGG   3120
GCTGTTTAAT AGATCCCCCT GGTTTACCAC CTTAATCTCC ACCATCATGG GACCTCTAAT   3180
AGTACTCTTA CTGATCTTAC TCTTTGGACC TTGCATTCTC AATCGATTAG TTCAATTTGT   3240
TAAAGACAGG ATCTCAGTAG TCCAGGCTTT AGTCCTGACT CAACAATACC ACCAGCTAAA   3300
GCCTATAGAG TACGAGCCAT AGGGCGCCTA GTGTTGACAA TTAATCATCG GCATAGTATA   3360
CGGCATAGTA TAATGACACT CACTATAGGA GGGCCACCAT GGCCAAGTTG ACCAGTGCCG   3420
TTCCGGTGCT CACCGCGCGC GACGTCGCCG GAGCGGTCGA GTTCTGGACC GACCGGCTCG   3480
GGTTCTCCCG GGACTTCGTG GAGGACGACT TCGCCGGTGT GGTCCGGGAC GACGTGACCC   3540
TGTTCATCAG CGCGGTCCAG GACCAGGTGG TGCCGGACAA CACCCTGGCC TGGGTGTGGG   3600
TGCGCGGCCT GGACGAGCTG TACGCCGAGT GGTCGGAGGT CGTGTCCACG AACTTCCGGG   3660
ACGCCTCCGG GCCGGCCATG ACCGAGATCG GCGAGCAGCC GTGGGGGCGG GAGTTCGCCC   3720
TGCGCGACCC GGCCGGCAAC TGCGTGCACT TCGTGGCCGA GGAGCAGGAC TGANNNNCGG   3780
ACCGGTCGAC TTGTTAACTT GTTTATTGCA GCTTATAATG GTTACAAATA AAGCAATAGC   3840
ATCACAAATT TCACAAATAA AGCATTTTTT TCACTGCATT CTAGTTGTGG TTTGTCCAAA   3900
CTCATCAATG TATCTTATCA TGTCTGGATC CAGATCTGGG CCCATGCGGC CGCGGATCGA   3960
TNNNNACATG TGAGCAAAAG GCCAGCAAAA GGCCAGGAAC CGTAAAAAGG CCGCGTTGCT   4020
GGCGTTTTTC CATAGGCTCC GCCCCCCTGA CGAGCATCAC AAAAATCGAC GCTCAAGTCA   4080
```

Figure 9b. FBdelPASAF Sequence

```
GAGGTGGCGA AACCCGACAG GACTATAAAG ATACCAGGCG TTTCCCCCTG GAAGCTCCCT    4140
CGTGCGCTCT CCTGTTCCGA CCCTGCCGCT TACCGGATAC CTGTCCGCCT TTCTCCCTTC    4200
GGGAAGCGTG GCGCTTTCTC AATGCTCACG CTGTAGGTAT CTCAGTTCGG TGTAGGTCGT    4260
TCGCTCCAAG CTGGGCTGTG TGCACGAACC CCCCGTTCAG CCCGACCGCT GCGCCTTATC    4320
CGGTAACTAT CGTCTTGAGT CCAACCCGGT AAGACACGAC TTATCGCCAC TGGCAGCAGC    4380
CACTGGTAAC AGGATTAGCA GAGCGAGGTA TGTAGGCGGT GCTACAGAGT TCTTGAAGTG    4440
GTGGCCTAAC TACGGCTACA CTAGAAGGAC AGTATTTGGT ATCTGCGCTC TGCTGAAGCC    4500
AGTTACCTTC GGAAAAAGAG TTGGTAGCTC TTGATCCGGC AAACAAACCA CCGCTGGTAG    4560
CGGTGGTTTT TTTGTTTGCA AGCAGCAGAT TACGCGCAGA AAAAAAGGAT CTCAAGAAGA    4620
TCCTTTGATC TTTTCTACGG GGTCTGACGC TCAGTGGAAC GAAAACTCAC GTTAAGGGAT    4680
TTTGGTCATG AGATTATCAA AAAGGATCTT CACCTAGATC CTTTTAAATT AAAAATGAAG    4740
TTTTAAATCA ATCTAAAGTA TATATGAGTA AACTTGGTCT GACAGTTACC AATGCTTAAT    4800
CAGTGAGGCA CCTATCTCAG CGATCTGTCT ATTTCGTTCA TCCATAGTTG CCTGACTCCC    4860
CGTCGTGTAG ATAACTACGA TACGGGAGGG CTTACCATCT GGCCCCAGTG CTGCAATGAT    4920
ACCGCGAGAC CCACGCTCAC CGGCTCCAGA TTTATCAGCA ATAAACCAGC CAGCCGGAAG    4980
GGCCGAGCGC AGAAGTGGTC CTGCAACTTT ATCCGCCTCC ATCCAGTCTA TTAATTGTTG    5040
CCGGGAAGCT AGAGTAAGTA GTTCGCCAGT TAATAGTTTG CGCAACGTTG TTGCCATTGC    5100
TACAGGCATC GTGGTGTCAC GCTCGTCGTT TGGTATGGCT TCATTCAGCT CCGGTTCCCA    5160
ACGATCAAGG CGAGTTACAT GATCCCCCAT GTTGTGCAAA AAAGCGGTTA GCTCCTTCGG    5220
TCCTCCGATC GTTGTCAGAA GTAAGTTGGC CGCAGTGTTA TCACTCATGG TTATGGCAGC    5280
ACTGCATAAT TCTCTTACTG TCATGCCATC CGTAAGATGC TTTTCTGTGA CTGGTGAGTA    5340
CTCAACCAAG TCATTCTGAG AATAGTGTAT GCGGCGACCG AGTTGCTCTT GCCCGGCGTC    5400
AATACGGGAT AATACCGCGC CACATAGCAG AACTTTAAAA GTGCTCATCA TTGGAAAACG    5460
TTCTTCGGGG CGAAAACTCT CAAGGATCTT ACCGCTGTTG AGATCCAGTT CGATGTAACC    5520
CACTCGTGCA CCCAACTGAT CTTCAGCATC TTTTACTTTC ACCAGCGTTT CTGGGTGAGC    5580
AAAAACAGGA AGGCAAAATG CCGCAAAAAA GGGAATAAGG GCGACACGGA AATGTTGAAT    5640
ACTCATACTC TTCCTTTTTC AATATTATTG AAGCATTTAT CAGGGTTATT GTCTCATGAG    5700
CGGATACATA TTTGAATGTA TTTAGAAAAA TAAACAAATA GGGGTTCCGC GCACATTTCC    5760
CCGAAAAGTG CCACCTGACG TCTAAGAAAC CATTATTATC ATGACATTAA CCTATAAAAA    5820
TAGGCGTATC ACGAGGCCCT TTCGTCTCGC GCGTTTCGGT GATGACGGTG AAAACCTCTG    5880
ACACATGCAG CTCCCGGAGA CGGTCACAGC TTGTCTGTAA GCGGATGCCG GGAGCAGACA    5940
AGCCCGTCAG GGCGCGTCAG CGGGTGTTGG CGGGTGTCGG GGCTGGCTTA ACTATGCGGC    6000
ATCAGAGCAG ATTGTACTGA GAGTGCAC                                       6028
```

Figure 10a. FBdelPMOSAF Sequence

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CATATGCGGT GTGAAATACC GCACAGATGC GTAAGGAGAA AATACCGCAT CAGGCGCCAT    60
TCGCCATTCA GGCTGCGCAA CTGTTGGGAA GGGCGATCGG TGCGGGCCTC TTCGCTATTA   120
CGCCAGCTGG CGAAAGGGGG ATGTGCTGCA AGGCGATTAA GTTGGGTAAC GCCAGGGTTT   180
TCCCAGTCAC GACGTTGTAA AACGACGGCC AGTGAATTCC GATTAGTTCA ATTTGTTAAA   240
GACAGGATCT CAGTAGTCCA GGCTTTAGTC CTGACTCAAC AATACCACCA GCTAAAACCA   300
CTAGAATACG AGCCACAATA AATAAAAGAT TTTATTTAGT TTCCAGAAAA AGGGGGGAAT   360
GAAAGACCCC ACCAAATTGC TTAGCCTGAT AGCCGCAGTA ACGCCATTTT GCAAGGCATG   420
GAAAAATACC AAACCAAGAA TAGAGAAGTT CAGATCAAGG GCGGGTACAC GAAAACAGCT   480
AACGTTGGGC CAAACAGGAT ATCTGCGGTG AGCAGTTTCG GCCCCGGCCC GGGGCCAAGA   540
ACAGATGGTC ACCGCGGTTC GGCCCCGGCC CGGGGCCAAG AACAGATGGT CCCCAGATAT   600
GGCCCAACCC TCAGCAGTTT CTTAAGACCC ATCAGATGTT TCCAGGCTCC CCCAAGGACC   660
TGAAATGACC CTGTGCCTTA TTTGAATTAA CCAATCAGCC TGCTTCTCGC TTCTGTTCGC   720
GCGCTTCTGC TTCCCGAGCT CTATAAAAGA GCTCACAACC CCTCACTCGG CGCGCCAGTC   780
CTCCGATAGA CTGAGTCGCC CGGGTACCCG TGTATCCAAT AAATCCTCTT GCTGTTGCAT   840
CCGACTCGTG GTCTCGCTGT TCCTTGGGAG GGTCTCCTCA GAGTGATTGA CTACCCGTCT   900
CGGGGGTCTT TCATTTGGGG GCTCGTCCGG GATCTGGAGA CCCCTGCCCA GGGACCACCG   960
ACCCACCACC GGGAGGTAAG CTGGCCAAGA TCTTATATGG GGCACCCCCG CCCCTTGTAA  1020
ACTTCCCTGA CCCTGACATG ACAAGAGTTA CTAACAGCCC CTCTCTCCAA GCTCACTTAC  1080
AGGCTCTCTA CTTAGTCCAG CACGAAGTCT GGAGACCTCT GGCGGCAGCC TACCAAGAAC  1140
AACTGGACCG ACCGGTGGTA CCTCACCCTT ACCGAGTCGG CGACACAGTG TGGGTCCGCC  1200
GACACCAGAC TAAGAACCTA GAACCTCGCT GGAAAGGACC TTACACAGTC CTGCTGACCA  1260
CCCCCACCGC CCTCAAAGTA GACGGCATCG CAGCTTGGAT ACACGCCGCC CACGTGAAGG  1320
CTGCCGACCC CGGGGGTGGA CCATCCTCTA GACTGACATG GCGCGTTCAA CGCTCTCAAA  1380
ACCCCTTAAA AATAAGGTTA ACCCGCGAGG CCCCCTAATC CCCTTAATTC TTCTGATGCT  1440
CAGAGGGGTC AGTACTGCTT CGCCCGGCTC CAGTCCTCAT CAAGTCTATA ATATCACCTG  1500
GGAGGTAACC AATGGAGATC GGGAGACGGT ATGGGCAACT TCTGGCAACC ACCCTCTGTG  1560
GACCTGGTGG CCTGACCTTA CCCCAGATTT ATGTATGTTA GCCCACCATG GACCATCTTA  1620
TTGGGGGCTA GAATATCAAT CCCCTTTTTC TTCTCCCCCG GGGCCCCTTT GTTGCTCAGG  1680
GGGCAGCAGC CCAGGCTGTT CCAGAGACTG CGAAGAACCT TTAACCTCCC TCACCCCTCG  1740
GTGCAACACT GCCTGGAACA GACTCAAGCT AGACCAGACA ACTCATAAAT CAAATGAGGG  1800
ATTTTATGTT TGCCCCGGGC CCCACCGCCC CCGAGAATCC AAGTCATGTG GGGGTCCAGA  1860
CTCCTTCTAC TGTGCCTATT GGGGCTGTGA GACAACCGGT AGAGCTTACT GGAAGCCCTC  1920
CTCATCATGG GATTTCATCA CAGTAAACAA CAATCTCACC TCTGACCAGG CTGTCCAGGT  1980
ATGCAAAGAT AATAAGTGGT GCAACCCCTT AGTTATTCGG TTTACAGACG CCGGGAGACG  2040
GGTTACTTCC TGGACCACAG GACATTACTG GGGCTTACGT TTGTATGTCT CCGGACAAGA  2100
TCCAGGGCTT ACATTTGGGA TCCGACTCAG ATACCAAAAT CTAGGACCCC GCGTCCCAAT  2160
AGGGCCAAAC CCCGTTCTGG CAGACCAACA GCCACTCTCC AAGCCCAAAC CTGTTAAGTC  2220
GCCTTCAGTC ACCAAACCAC CCAGTGGGAC TCCTCTCTCC CCTACCCAAC TTCCACCGGC  2280
GGGAACGGAA AATAGGCTGC TAAACTTAGT AGACGGAGCC TACCAAGCCC TCAACCTCAC  2340
CAGTCCTGAC AAAAACCCAAG AGTGCTGGTT GTGTCTAGTA GCGGGACCCC CCTACTACGA  2400
AGGGGTTGCC GTCCTGGGTA CCTACTCCAA CCATACCTCT GCTCCAGCCA ACTGCTCCGT  2460
GGCCTCCCAA CACAAGTTGA CCCTGTCCGA AGTGACCGGA CAGGGACTCT GCATAGGAGC  2520
AGTTCCCAAA ACACATCAGG CCCTATGTAA TACCACCCAG ACAAGCAGTC GAGGGTCCTA  2580
TTATCTAGTT GCCCCTACAG GTACCATGTG GGCTTGTAGT ACCGGGCTTA CTCCATGCAT  2640
CTCCACCACC ATACTGAACC TTACCACTGA TTATTGTGTT CTTGTCGAAC TCTGGCCAAG  2700
AGTCACCTAT CATTCCCCCA GCTATGTTTA CGGCCTGTTT GAGAGATCCA ACCGACACAA  2760
AAGAGAACCG GTGTCGTTAA CCCTGGCCCT ATTATTGGGT. GGACTAACCA TGGGGGGAAT  2820
TGCCGCTGGA ATAGGAACAG GGACTACTGC TCTAATGGCC ACTCAGCAAT TCCAGCAGCT  2880
CCAAGCCGCA GTACAGGATG ATCTCAGGGA GGTTGAAAAA TCAATCTCTA ACCTAGAAAA  2940
GTCTCTCACT TCCCTGTCTG AAGTTGTCCT ACAGAATCGA AGGGGCCTAG ACTTGTTATT  3000
TCTAAAAGAA GGAGGGCTGT GTGCTGCTCT AAAAGAAGAA TGTTGCTTCT ATGCGGACCA  3060
CACAGGACTA GTGAGAGACA GCATGGCCAA ATTGAGAGAG AGGCTTAATC AGAGACAGAA  3120
ACTGTTTGAG TCAACTCAAG GATGGTTTGA GGGACTGTTT AACAGATCCC CTTGGTTTAC  3180
CACCTTGATA TCTACCATTA TGGGACCCCT. CATTGTACTC CTAATGATTT TGCTCTTCGG  3240
ACCCTGCATT CTTAATCGAT TAGTTCAATT TGTTAAAGAC AGGATCTCAG TAGTCCAGGC  3300
TTTAGTCCTG ACTCAACAAT ACCACCAGCT AAAGCCTATA GAGTACGAGC CATAGGGCGC  3360
CTAGTGTTGA CAATTAATCA TCGGCATAGT ATACGGCATA GTATATACG ACTCACTATA  3420
GGAGGGCCAC CATGGCCAAG TTGACCAGTG CCGTTCCGGT GCTCACCGCG CGCGACGTCG  3480
CCGGAGCGGT CGAGTTCTGG ACCGACCGGC TCGGGTTCTC CCGGGACTTC GTGGAGGACG  3540
ACTTCGCCGG TGTGGTCCGG GACGACGTGA CCCTGTTCAT CAGCGCGGTC CAGGACCAGG  3600
TGGTGCCGGA CAACACCCTG GCCTGGGTGT GGGTGCGCGG CCTGGACGAG CTGTACGCCG  3660
AGTGGTCGGA GGTCGTGTCC ACGAACTTCC GGGACGCCTC CGGGCCGGCC ATGACCGAGA  3720
TCGGCGAGCA GCCGTGGGGG CGGGAGTTCG CCCTGCGCGA CCCGGCCGGC AACTGCGTGC  3780
ACTTCGTGGC CGAGGAGCAG GACTGANNNN CGGACCGGTC GACTTGTTAA CTTGTTTATT  3840
GCAGCTTATA ATGGTTACAA ATAAAGCAAT AGCATCACAA ATTTCACAAA TAAAGCATTT  3900
TTTTCACTGC ATTCTAGTTG TGGTTTGTCC AAACTCATCA ATGTATCTTA TCATGTCTGG  3960
ATCCAGATCT GGGCCCATGC GGCCGCGGAT CGATNNNNAC ATGTGAGCAA AAGGCCAGCA  4020
AAAGGCCAGG AACCGTAAAA AGGCCGCGTT GCTGGCGTTT TTCCATAGGC TCCGCCCCCC  4080
```

Figure 10b. FBdelPMOSAF Sequence

```
TGACGAGCAT CACAAAAATC GACGCTCAAG TCAGAGGTGG CGAAACCCGA CAGGACTATA    4140
AAGATACCAG GCGTTTCCCC CTGGAAGCTC CCTCGTGCGC TCTCCTGTTC CGACCCTGCC    4200
GCTTACCGGA TACCTGTCCG CCTTTCTCCC TTCGGGAAGC GTGGCGCTTT CTCAATGCTC    4260
ACGCTGTAGG TATCTCAGTT CGGTGTAGGT CGTTCGCTCC AAGCTGGGCT GTGTGCACGA    4320
ACCCCCCGTT CAGCCCGACC GCTGCGCCTT ATCCGGTAAC TATCGTCTTG AGTCCAACCC    4380
GGTAAGACAC GACTTATCGC CACTGGCAGC AGCCACTGGT AACAGGATTA GCAGAGCGAG    4440
GTATGTAGGC GGTGCTACAG AGTTCTTGAA GTGGTGGCCT AACTACGGCT ACACTAGAAG    4500
GACAGTATTT GGTATCTGCG CTCTGCTGAA GCCAGTTACC TTCGGAAAAA GAGTTGGTAG    4560
CTCTTGATCC GGCAAACAAA CCACCGCTGG TAGCGGTGGT TTTTTTGTTT GCAAGCAGCA    4620
GATTACGCGC AGAAAAAAAG GATCTCAAGA AGATCCTTTG ATCTTTTCTA CGGGGTCTGA    4680
CGCTCAGTGG AACGAAAACT CACGTTAAGG GATTTTGGTC ATGAGATTAT CAAAAAGGAT    4740
CTTCACCTAG ATCCTTTTAA ATTAAAAATG AAGTTTTAAA TCAATCTAAA GTATATATGA    4800
GTAAACTTGG TCTGACAGTT ACCAATGCTT AATCAGTGAG GCACCTATCT CAGCGATCTG    4860
TCTATTTCGT TCATCCATAG TTGCCTGACT CCCCGTCGTG TAGATAACTA CGATACGGGA    4920
GGGCTTACCA TCTGGCCCCA GTGCTGCAAT GATACCGCGA GACCCACGCT CACCGGCTCC    4980
AGATTTATCA GCAATAAACC AGCCAGCCGG AAGGGCCGAG CGCAGAAGTG GTCCTGCAAC    5040
TTTATCCGCC TCCATCCAGT CTATTAATTG TTGCCGGGAA GCTAGAGTAA GTAGTTCGCC    5100
AGTTAATAGT TTGCGCAACG TTGTTGCCAT TGCTACAGGC ATCGTGGTGT CACGCTCGTC    5160
GTTTGGTATG GCTTCATTCA GCTCCGGTTC CCAACGATCA AGGCGAGTTA CATGATCCCC    5220
CATGTTGTGC AAAAAAGCGG TTAGCTCCTT CGGTCCTCCG ATCGTTGTCA GAAGTAAGTT    5280
GGCCGCAGTG TTATCACTCA TGGTTATGGC AGCACTGCAT AATTCTCTTA CTGTCATGCC    5340
ATCCGTAAGA TGCTTTTCTG TGACTGGTGA GTACTCAACC AAGTCATTCT GAGAATAGTG    5400
TATGCGGCGA CCGAGTTGCT CTTGCCCGGC GTCAATACGG GATAATACCG CGCCACATAG    5460
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CTTACCGCTG TTGAGATCCA GTTCGATGTA ACCCACTCGT GCACCCAACT GATCTTCAGC    5580
ATCTTTTACT TTCACCAGCG TTTCTGGGTG AGCAAAAACA GGAAGGCAAA ATGCCGCAAA    5640
AAAGGGAATA AGGGCGACAC GGAAATGTTG AATACTCATA CTCTTCCTTT TTCAATATTA    5700
TTGAAGCATT TATCAGGGTT ATTGTCTCAT GAGCGGATAC ATATTTGAAT GTATTTAGAA    5760
AAATAAACAA ATAGGGGTTC CGCGCACATT TCCCCGAAAA GTGCCACCTG ACGTCTAAGA    5820
AACCATTATT ATCATGACAT TAACCTATAA AAATAGGCGT ATCACGAGGC CCTTTCGTCT    5880
CGCGCGTTTC GGTGATGACG GTGAAAACCT CTGACACATG CAGCTCCCGG AGACGGTCAC    5940
AGCTTGTCTG TAAGCGGATG CCGGGAGCAG ACAAGCCCGT CAGGGCGCGT CAGCGGGTGT    6000
TGGCGGGTGT CGGGGCTGGC TTAACTATGC GGCATCAGAG CAGATTGTAC TGAGAGTGCA    6060
C                                                                   6061
```

Figure 11a. FBdelPGASAF Sequence

```
CATATGCGGT GTGAAATACC GCACAGATGC GTAAGGAGAA AATACCGCAT CAGGCGCCAT     60
TCGCCATTCA GGCTGCGCAA CTGTTGGGAA GGGCGATCGG TGCGGGCCTC TTCGCTATTA    120
CGCCAGCTGG CGAAAGGGGG ATGTGCTGCA AGGCGATTAA GTTGGGTAAC GCCAGGGTTT    180
TCCCAGTCAC GACGTTGTAA AACGACGGCC AGTGAATTCC GATTAGTTCA ATTTGTTAAA    240
GACAGGATCT CAGTAGTCCA GGCTTTAGTC CTGACTCAAC AATACCACCA GCTAAAACCA    300
CTAGAATACG AGCCACAATA AATAAAAGAT TTTATTTAGT TTCCAGAAAA AGGGGGGAAT    360
GAAAGACCCC ACCAAATTGC TTAGCCTGAT AGCCGCAGTA ACGCCATTTT GCAAGGCATG    420
GAAAAATACC AAACCAAGAA TAGAGAAGTT CAGATCAAGG GCGGGTACAC GAAAACAGCT    480
AACGTTGGGC CAAACAGGAT ATCTGCGGTG AGCAGTTTCG GCCCCGGCCC GGGGCCAAGA    540
ACAGATGGTC ACCGCGGTTC GGCCCCGGCC CGGGGCCAAG AACAGATGGT CCCCAGATAT    600
GGCCCAACCC TCAGCAGTTT CTTAAGACCC ATCAGATGTT TCCAGGCTCC CCCAAGGACC    660
TGAAATGACC CTGTGCCTTA TTTGAATTAA CCAATCAGCC TGCTTCTCGC TTCTGTTCGC    720
GCGCTTCTGC TTCCCGAGCT CTATAAAAGA GCTCACAACC CCTCACTCGG CGCGCCAGTC    780
CTCCGATAGA CTGAGTCGCC CGGGTACCCG TGTATCCAAT AAATCCTCTT GCTGTTGCAT    840
CCGGACTCGTG GTCTCGCTGT TCCTTGGGAG GGTCTCCTCA GAGTGATTGA CTACCCGTCT    900
CGGGGGTCTT TCATTTGGGG GCTCGTCCGG GATCTGGAGA CCCCTGCCCA GGGACCACCG    960
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CGGCCTTTGT TGCTCAGGTA AGTCAGGGAC TGGCCACTCA ACTGGGGATA AATTGGAAGT   1080
TACATTGTGC GTATAGACCC CAGAGCTCAG GTCAGGTAGA AAGAATGAAC AGAACAATTA   1140
AAGAGACCTT GACCAAATTA GCCTTAGAGA CCGGTGGAAA AGACTGGGTG ACCCTCCTTC   1200
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TTCTCTATGG AGGACCACCC CCCATACTTG AGTCTGGAGA AACTTTGGGT CCCGATGATA   1320
GATTTCTCCC TGTCTTATTT ACTCACTTAA AGGCTTTAGA AATTGTAAGG ACCCAAATCT   1380
GGGACCAGAT CAAAGAGGTG TATAAGCCTG GTACCGTAAC AATCCCTCAC CCGTTCCAGG   1440
TCGGGGATCA AGTGCTTGTC AGACGCCATC GACCCAGCAG CCTTGAGCCT CGGTGGAAAG   1500
GCCCATACCT GGTGTTGCTG ACTACCCCGA CCGCGGTAAA AGTCGATGGT ATTGCTGCCT   1560
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AATAAGAACC CCCACCAGCC CATGACCCTC ACTTGGCAGG TACTGTCCCA AACTGGAGAC   1740
GTTGTCTGGG ATACAAAGGC AGTCCAGCCC CCTTGGACTT GGTGGCCCAC ACTTAAACCT   1800
GATGTATGTG CCTTGGCGGC TAGTCTTGAG TCCTGGGATA TCCCGGGAAC CGATGTCTCG   1860
TCCTCTAAAC GAGTCAGACC TCCGGACTCA GACTATACTG CCGCTTATAA GCAAATCACC   1920
TGGGGAGCCA TAGGGTGCAG CTACCCTCGG GCTAGGACTA GAATGGCAAG CTCTACCTTC   1980
TACGTATGTC CCCGGGATGG CCGGACCCTT TCAGAAGCTA GAAGGTGCGG GGGGCTAGAA   2040
TCCCTATACT GTAAAGAATG GGATTGTGAG ACCACGGGGA CCGGTTATTG GCTATCTAAA   2100
TCCTCAAAAG ACCTCATAAC TGTAAAATGG GACCAAAATA GCGAATGGAC TCAAAAATTT   2160
CAACAGTGTC ACCAGACCGG CTGGTGTAAC CCCCTTAAAA TAGATTTCAC AGACAAAGGA   2220
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CATCCAGGCG TACAGTTCAC CATTCGCTTA AAAATCACCA ACATGCCAGC TGTGGCAGTA   2340
GGTCCTGACC TCGTCCTTGT GGAACAAGGA CCTCCTAGAA CGTCCCTCGC TCTCCCACCT   2400
CCTCTTCCCC CAAGGGAAGC GCCACCGCCA TCTCTCCCCG ACTCTAACTC CACAGCCCTG   2460
GCGACTAGTG CACAAACTCC CACGGTGAGA AAAACAATTG TTACCCTAAA CACTCCGCCT   2520
CCCACCACAG GCGACAGACT TTTTGATCTT GTGCAGGGGG CCTTCCTAAC CTTAAATGCT   2580
ACCAACCCAG GGGCCACTGA GTCTTGCTGG CTTTGTTTGG CCATGGGCCC CCCTTATTAT   2640
GAAGCAATAG CCTCATCAGG AGAGGTCGCC TACTCCACCG ACCTTGACCG GTGCCGCTGG   2700
GGGACCCAAG GAAAGCTCAC CCTCACTGAG GTCTCAGGAC ACGGGTTGTG CATAGGAAAG   2760
GTGCCCTTTA CCCATCAGCA TCTCTGCAAT CAGACCCTAT CCATCAATTC CTCCGGAGAC   2820
CATCAGTATC TGCTCCCCTC CAACCATAGC TGGTGGGCTT GCAGCACTGG CCTCACCCCT   2880
TGCCTCTCCA CCTCAGTTTT TAATCAGACT AGAGATTTCT GTATCCAGGT CCAGCTGATT   2940
CCTCGCATCT ATTACTATCC TGAAGAAGTT TTGTTACAGG CCTATGACAA TTCTCACCCC   3000
AGGACTAAAA GAGAGGCTGT CTCACTTACC CTAGCTGTTT TACTGGGGTT GGGAATCACG   3060
GCGGGAATAG GTACTGGTTC AACTGCCTTA ATTAAAGGAC CTATAGACCT CCAGCAAGGC   3120
CTGACAAGCC TCCAGATCGC CATAGATGCT GACCTCCGGG CCCTCCAAGA CTCAGTCAGC   3180
AAGTTAGAGG ACTCACTGAC TTCCCTGTCC GAGGTAGTGC TCCAAAATAG GAGAGGCCTT   3240
GACTTGCTGT TTCTAAAAGA AGGTGGCCTC TGTGCGGCCC TAAAGGAAGA GTGCTGTTTT   3300
TACATAGACC ACTCAGGTGC AGTACGGGAC TCCATGAAAA AACTCAAAGA AAAACTGGAT   3360
AAAAGACAGT TAGAGCGCCA GAAAAGCCAA AACTGGTATG AAGGATGGTT CAATAACTCC   3420
CCTTGGTTCA CTACCCTGCT ATCAACCATC GCTGGGCCCC TATTACTCCT CCTTCTGTTG   3480
CTCATCCTCG GGCCATGCAT CATCATCGA TTAGTTCAAT TTGTTAAAGA CAGGATCTCA   3540
GTAGTCCAGG CTTTAGTCCT GACTCAACAA TACCACCAGC TAAAGCCTAT AGAGTACGAG   3600
CCATAGGGCG CCTAGTGTTG ACAATTAATC ATCGGCATAG TATACGGCAT AGTATAATAC   3660
GACTCACTAT AGGAGGGCCA CCATGGCCAA GTTGACCAGT GCCGTTCCGG TGCTCACCGC   3720
GCGCGACGTC GCCGGAGCGG TCGAGTTCTG GACCGACCGG CTCGGGTTCT CCCGGGACTT   3780
CGTGGAGGAC GACTTCGCCG GTGTGGTCCG GGACGACGTG ACCCTGTTCA TCAGCGCGGT   3840
CCAGGACCAG GTGGTGCCGG ACAACACCCT GGCCTGGGTG TGGGTGCGCG GCCTGGACGA   3900
GCTGTACGCC GAGTGGTCGG AGGTCGTGTC CACGAACTTC CGGGACGCCT CCGGGCCGGC   3960
CATGACCGAG ATCGGCGAGC AGCCGTGGGG GCGGGAGTTC GCCCTGCGCG ACCCGGCCGG   4020
CAACTGCGTG CACTTCGTGG CCGAGGAGCA GGACTGANNN NCGGACCGGT CGACTTGTTA   4080
```

Figure 11b. FBdelPGASAF Sequence

```
ACTTGTTTAT TGCAGCTTAT AATGGTTACA AATAAAGCAA TAGCATCACA AATTTCACAA
ATAAAGCATT TTTTTCACTG CATTCTAGTT GTGGTTTGTC CAAACTCATC AATGTATCTT      4140
ATCATGTCTG GATCCAGATC TGGGCCCATG CGGCCGCGGA TCGATNNNNA CATGTGAGCA      4200
AAAGGCCAGC AAAAGGCCAG GAACCGTAAA AAGGCCGCGT TGCTGGCGTT TTTCCATAGG      4260
CTCCGCCCCC CTGACGAGCA TCACAAAAAT CGACGCTCAA GTCAGAGGTG GCGAAACCCG      4320
ACAGGACTAT AAAGATACCA GGCGTTTCCC CCTGGAAGCT CCCTCGTGCG CTCTCCTGTT      4380
CCGACCCTGC CGCTTACCGG ATACCTGTCC GCCTTTCTCC CTTCGGGAAG CGTGGCGCTT      4440
TCTCAATGCT CACGCTGTAG GTATCTCAGT TCGGTGTAGG TCGTTCGCTC CAAGCTGGGC      4500
TGTGTGCACG AACCCCCCGT TCAGCCCGAC CGCTGCGCCT TATCCGGTAA CTATCGTCTT      4560
GAGTCCAACC CGGTAAGACA CGACTTATCG CCACTGGCAG CAGCCACTGG TAACAGGATT      4620
AGCAGAGCGA GGTATGTAGG CGGTGCTACA GAGTTCTTGA AGTGGTGGCC TAACTACGGC      4680
TACACTAGAA GGACAGTATT TGGTATCTGC GCTCTGCTGA AGCCAGTTAC CTTCGGAAAA      4740
AGAGTTGGTA GCTCTTGATC CGGCAAACAA ACCACCGCTG GTAGCGGTGG TTTTTTTGTT      4800
TGCAAGCAGC AGATTACGCG CAGAAAAAAA GGATCTCAAG AAGATCCTTT GATCTTTTCT      4860
ACGGGGTCTG ACGCTCAGTG GAACGAAAAC TCACGTTAAG GGATTTTGGT CATGAGATTA      4920
TCAAAAAGGA TCTTCACCTA GATCCTTTTA AATTAAAAAT GAAGTTTTAA ATCAATCTAA      4980
AGTATATATG AGTAAACTTG GTCTGACAGT TACCAATGCT TAATCAGTGA GGCACCTATC      5040
TCAGCGATCT GTCTATTTCG TTCATCCATA GTTGCCTGAC TCCCCGTCGT GTAGATAACT      5100
ACGATACGGG AGGGCTTACC ATCTGGCCCC AGTGCTGCAA TGATACCGCG AGACCCACGC      5160
TCACCGGCTC CAGATTTATC AGCAATAAAC CAGCCAGCCG GAAGGGCCGA GCGCAGAAGT      5220
GGTCCTGCAA CTTTATCCGC CTCCATCCAG TCTATTAATT GTTGCCGGGA AGCTAGAGTA      5280
AGTAGTTCGC CAGTTAATAG TTTGCGCAAC GTTGTTGCCA TTGCTACAGG CATCGTGGTG      5340
TCACGCTCGT CGTTTGGTAT GGCTTCATTC AGCTCCGGTT CCCAACGATC AAGGCGAGTT      5400
ACATGATCCC CCATGTTGTG CAAAAAAGCG GTTAGCTCCT TCGGTCCTCC GATCGTTGTC      5460
AGAAGTAAGT TGGCCGCAGT GTTATCACTC ATGGTTATGG CAGCACTGCA TAATTCTCTT      5520
ACTGTCATGC CATCCGTAAG ATGCTTTTCT GTGACTGGTG AGTACTCAAC CAAGTCATTC      5580
TGAGAATAGT GTATGCGGCG ACCGAGTTGC TCTTGCCCGG CGTCAATACG GGATAATACC      5640
GCGCCACATA GCAGAACTTT AAAAGTGCTC ATCATTGGAA AACGTTCTTC GGGGCGAAAA      5700
CTCTCAAGGA TCTTACCGCT GTTGAGATCC AGTTCGATGT AACCCACTCG TGCACCCAAC      5760
TGATCTTCAG CATCTTTTAC TTTCACCAGC GTTTCTGGGT GAGCAAAAAC AGGAAGGCAA      5820
AATGCCGCAA AAAAGGGAAT AAGGGCGACA CGGAAATGTT GAATACTCAT ACTCTTCCTT      5880
TTTCAATATT ATTGAAGCAT TTATCAGGGT TATTGTCTCA TGAGCGGATA CATATTTGAA      5940
TGTATTTAGA AAAATAAACA AATAGGGGTT CCGCGCACAT TTCCCCGAAA AGTGCCACCT      6000
GACGTCTAAG AAACCATTAT TATCATGACA TTAACCTATA AAAATAGGCG TATCACGAGG      6060
CCCTTTCGTC TCGCGCGTTT CGGTGATGAC GGTGAAAACC TCTGACACAT GCAGCTCCCG      6120
GAGACGGTCA CAGCTTGTCT GTAAGCGGAT GCCGGGAGCA GACAAGCCCG TCAGGGCGCG      6180
TCAGCGGGTG TTGGCGGGTG TCGGGGCTGG CTTAACTATG CGGCATCAGA GCAGATTGTA      6240
CTGAGAGTGC AC                                                         6300
                                                                      6312
```

Figure 12a. FBdelPRDSAF Sequence

```
CATATGCGGT GTGAAATACC GCACAGATGC GTAAGGAGAA AATACCGCAT CAGGCGCCAT      60
TCGCCATTCA GGCTGCGCAA CTGTTGGGAA GGGCGATCGG TGCGGGCCTC TTCGCTATTA     120
CGCCAGCTGG CGAAAGGGGG ATGTGCTGCA AGGCGATTAA GTTGGGTAAC GCCAGGGTTT     180
TCCCAGTCAC GACGTTGTAA AACGACGGCC AGTGAATTCC GATTAGTTCA ATTTGTTAAA     240
GACAGGATCT CAGTAGTCCA GGCTTTAGTC CTGACTCAAC AATACCACCA GCTAAAACCA     300
CTAGAATACG AGCCACAATA AATAAAAGAT TTTATTTAGT TTCCAGAAAA AGGGGGGAAT     360
GAAAGACCCC ACCAAATTGC TTAGCCTGAT AGCCGCAGTA ACGCCATTTT GCAAGGCATG     420
GAAAAATACC AAACCAAGAA TAGAGAAGTT CAGATCAAGG GCGGGTACAC GAAAACAGCT     480
AACGTTGGGC CAAACAGGAT ATCTGCGGTG AGCAGTTTCG GCCCCGGCCC GGGGCCAAGA     540
ACAGATGGTC ACCGCGGTTC GGCCCCGGCC CGGGGCCAAG AACAGATGGT CCCCAGATAT     600
GGCCCAACCC TCAGCAGTTT CTTAAGACCC ATCAGATGTT TCCAGGCTCC CCCAAGGACC     660
TGAAATGACC CTGTGCCTTA TTTGAATTAA CCAATCAGCC TGCTTCTCGC TTCTGTTCGC     720
GCGCTTCTGC TTCCCGAGCT CTATAAAAGA GCTCACAACC CCTCACTCGG CGCGCCAGTC     780
CTCCGATAGA CTGAGTCGCC CGGGTACCCG TGTATCCAAT AAATCCTCTT GCTGTTGCAT     840
CCGACTCGTG GTCTCGCTGT TCCTTGGGAG GGTCTCCTCA GAGTGATTGA CTACCCGTCT     900
CGGGGGTCTT TCATTTGGGG GCTCGTCCGG GATCTGGAGA CCCCTGCCCA GGGACCACCG     960
ACCCACCACC GGGAGGTAAG CTGGCCAAGA TCCCCCGGGC TGCAGGAATT TATGAAATCC    1020
TTTATGGGGG ACCCCCCCCT TTGTCAACCT TGCTCAATTC CTTCTCCCCC TCCGATCCTA    1080
AGACTGATTT ACAAGCCCGA CTAAAAGGGC TGCAAGGCGT GCAGGCCCAA ATCTGGACAC    1140
CCCTGGCCGA ATTGTACCGG CCAGGACATC CACAAACTAG CCACCCATTT CAGGTGGGAG    1200
ACTCCGTGTA CGTCCGGCGG CACCGCTCTC AAGGATTGGA GCCTCGTTGG AAGGGACCTT    1260
ACATCGTCCT GCTGACCACG CCCACCGCCA TAAAGGTTGA CGGGATCGCC GCCTGGATTC    1320
ACGCATCGCA CGCCAAGGCA GCCCCAAAAA CCCCTGGACC AGAAACTCCC AAAACCTGGA    1380
AGCTCCGCCG TTCGGAGAAC CCTCTTAAGA TAAGACTCTC CCGTGTCTGA CTGCTAATCC    1440
ACCTTGTCCC TGTACTAACC CAAAATGAAA CTCCCAACAG GAATGGTCAT TTTATGTAGC    1500
CTAATAATAG TTCGGGCAGG GTTTGACGAC CCCCGCAAGG CTATCGCATT AGTACAAAAA    1560
CAACATGGTA AACCATGCGA ATGCAGCGGA GGGCAGGTAT CCGAGGCCCC ACCGAACTCC    1620
ATCCAACAGG TAACTTGCCC AGGCAAGACG GCCTACTTAA TGACCAACCA AAAATGGAAA    1680
TGCAGAGTCA CTCCAAAAAT CTCACCTAGC GGGGGAGAAC TCCAGAACTG CCCCTGTAAC    1740
ACTTTCCAGG ACTCGATGCA CAGTTCTTGT TATACTGAAT ACCGGCAATG CAGGCGAATT    1800
AATAAGACAT ACTACACGGC CACCTTGCTT AAAATACGGT CTGGGAGCCT CAACGAGGTA    1860
CAGATATTAC AAAACCCCAA TCAGCTCCTA CAGTCCCCTT GTAGGGGCTC TATAAATCAG    1920
CCCGTTTGCT GGAGTGCCAC AGCCCCCATC CATATCTCCG ATGGTGGAGG ACCCCTCGAT    1980
ACTAAGAGAG TGTGGACAGT CCAAAAAAGG CTAGAACAAA TTCATAAGGC TATGACTCCT    2040
GAACTTCAAT ACCACCCCTT AGCCCTGCCC AAAGTCAGAG ATGACCTTAG CCTTGATGCA    2100
CGGACTTTTG ATATCCTGAA TACCACTTTT AGGTTACTCC AGATGTCCAA TTTTAGCCTT    2160
GCCCAAGATT GTTGGCTCTG TTTAAAACTA GGTACCCCTA CCCCTCTTGC GATACCCACT    2220
CCCTCTTTAA CCTACTCCCT AGCAGACTCC CTAGCGAATG CCTCCTGTCA GATTATACCT    2280
CCCCTCTTGG TTCAACCGAT GCAGTTCTCC AACTCGTCCT GTTTATCTTC CCCTTTCATT    2340
AACGATACGG AACAAATAGA CTTAGGTGCA GTCACCTTTA CTAACTGCAC CTCTGTAGCC    2400
AATGTCAGTA GTCCTTTATG TGCCCTAAAC GGGTCAGTCT TCCTCTGTGG AAATAACATG    2460
GCATACACCT ATTTACCCCA AAAACTGGACC AGACTTTGCG TCCAAGCCTC CCTCCTCCCC    2520
GACATTGACA TCAACCCGGG GGATGAGCCA GTCCCCATTC CTGCCATTGA TCATTATATA    2580
CATAGACCTA AACGAGCTGT ACAGTTCATC CCTTTACTAG CTGGACTGGG AATCACCGCA    2640
GCATTCACCA CCGGAGCTAC AGGCCTAGGT GTCTCCGTCA CCCAGTATAC AAAATTATCC    2700
CATCAGTTAA TATCTGATGT CCAAGTCTTA TCCGGTACCA TACAAGATTT ACAAGACCAG    2760
GTAGACTCGT TAGCTGAAGT AGTTCTACCAA AATAGGAGGG GACTGGACCT ACTAACGGCA    2820
GAACAAGGAG GAATTTGTTT AGCCTTACAA GAAAAATGCT GTTTTTATGC TAACAAGTCA    2880
GGAATTGTGA GAAACAAAAT AAGAACCCTA CAAGAAGAAT TACAAAAACG CAGGGAAAGC    2940
CTGGCAACCA ACCCTCTCTG GACCGGGCTG CAGGGCTTTC TTCCGTACCT CCTACCTCTC    3000
CTGGGACCCC TACTCACCCT CCTACTCATA CTAACCATTG GGCCATGCGT TTTCAGTCGC    3060
CTCATGGCCT TCATTAATGA TAGACTTAAT GTTGTACATG CCATGGTGCT GGCCCAGCAA    3120
TACCAAGCAC TCAAAGCTGA GGAAGAAGCT CAGGATTGAG GCGCCTAGTG TTGACAATTA    3180
ATCATCGGCA TAGTATACGG CATAGTATAA TACGACTCAC TATAGGAGGG CCACCATGGC    3240
CAAGTTGACC AGTGCCGTTC CGGTGCTCAC CGCGCGCGAC GTCGCCGGAG CGGTCGAGTT    3300
CTGGACCGAC CGGCTCGGGT TCTCCCGGGA CTTCGTGGAG GACGACTTCG CCGGTGTGGT    3360
CCGGGACGAC GTGACCCTGT TCATCAGCGC GGTCCAGGAC CAGGTGGTGC CGGACAACAC    3420
CCTGGCCTGG GTGTGGGTGC GCGGCCTGGA CGAGCTGTAC GCCGAGTGGT CGGAGGTCGT    3480
GTCCACGAAC TTCCGGGACG CCTCCGGGCC GGCCATGACC GAGATCGGCG AGCAGCCGTG    3540
GGGGCGGGAG TTCGCCCTGC GCGACCGGGC CGGCAACTGC GTGCACTTCG TGGCCGAGGA    3600
GCAGGACTGA NNNNCGGACC GGTCGACTTG TTAACTTGTT TATTGCAGCT TATAATGGTT    3660
ACAAATAAAG CAATAGCATC ACAAATTTCA CAAATAAAGC ATTTTTTTCA CTGCATTCTA    3720
GTTGTGGTTT GTCCAAACTC ATCAATGTAT CTTATCATGT CTGGATCCAG ATCTGGGCCC    3780
ATGCGGCCGC GGATCGATNN NNACATGTGA GCAAAAGGCC AGCAAAAGGC CAGGAACCGT    3840
AAAAAGGCCG CGTTGCTGGC GTTTTTCCAT AGGCTCCGCC CCCCTGACGA GCATCACAAA    3900
AATCGACGCT CAAGTCAGAG GTGGCGAAAC CCGACAGGAC TATAAAGATA CCAGGCGTTT    3960
CCCCCTGGAA GCTCCCTCGT GCGCTCTCCT GTTCCGACCC TGCCGCTTAC CGGATACCTG    4020
TCCGCCTTTC TCCCTTCGGG AAGCGTGGCG CTTTCTCAAT GCTCACGCTG TAGGTATCTC    4080
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Figure 12b. FBdelPRDSAF Sequence

```
AGTTCGGTGT AGGTCGTTCG CTCCAAGCTG GGCTGTGTGC ACGAACCCCC CGTTCAGCCC
GACCGCTGCG CCTTATCCGG TAACTATCGT CTTGAGTCCA ACCCGGTAAG ACACGACTTA    4140
TCGCCACTGG CAGCAGCCAC TGGTAACAGG ATTAGCAGAG CGAGGTATGT AGGCGGTGCT    4200
ACAGAGTTCT TGAAGTGGTG GCCTAACTAC GGCTACACTA GAAGGACAGT ATTTGGTATC    4260
TGCGCTCTGC TGAAGCCAGT TACCTTCGGA AAAAGAGTTG GTAGCTCTTG ATCCGGCAAA    4320
CAAACCACCG CTGGTAGCGG TGGTTTTTTT GTTTGCAAGC AGCAGATTAC GCGCAGAAAA    4380
AAAGGATCTC AAGAAGATCC TTTGATCTTT TCTACGGGGT CTGACGCTCA GTGGAACGAA    4440
AACTCACGTT AAGGGATTTT GGTCATGAGA TTATCAAAAA GGATCTTCAC CTAGATCCTT    4500
TTAAATTAAA AATGAAGTTT TAAATCAATC TAAAGTATAT ATGAGTAAAC TTGGTCTGAC    4560
AGTTACCAAT GCTTAATCAG TGAGGCACCT ATCTCAGCGA TCTGTCTATT TCGTTCATCC    4620
ATAGTTGCCT GACTCCCCGT CGTGTAGATA ACTACGATAC GGGAGGGCTT ACCATCTGGC    4680
CCCAGTGCTG CAATGATACC GCGAGACCCA CGCTCACCGG CTCCAGATTT ATCAGCAATA    4740
AACCAGCCAG CCGGAAGGGC CGAGCGCAGA AGTGGTCCTG CAACTTTATC CGCCTCCATC    4800
CAGTCTATTA ATTGTTGCCG GGAAGCTAGA GTAAGTAGTT CGCCAGTTAA TAGTTTGCGC    4860
AACGTTGTTG CCATTGCTAC AGGCATCGTG GTGTCACGCT CGTCGTTTGG TATGGCTTCA    4920
TTCAGCTCCG GTTCCCAACG ATCAAGGCGA GTTACATGAT CCCCCATGTT GTGCAAAAAA    4980
GCGGTTAGCT CCTTCGGTCC TCCGATCGTT GTCAGAAGTA AGTTGGCCGC AGTGTTATCA    5040
CTCATGGTTA TGGCAGCACT GCATAATTCT CTTACTGTCA TGCCATCCGT AAGATGCTTT    5100
TCTGTGACTG GTGAGTACTC AACCAAGTCA TTCTGAGAAT AGTGTATGCG GCGACCGAGT    5160
TGCTCTTGCC CGGCGTCAAT ACGGGATAAT ACCGCGCCAC ATAGCAGAAC TTTAAAAGTG    5220
CTCATCATTG GAAAACGTTC TTCGGGGCGA AAACTCTCAA GGATCTTACC GCTGTTGAGA    5280
TCCAGTTCGA TGTAACCCAC TCGTGCACCC AACTGATCTT CAGCATCTTT TACTTTCACC    5340
AGCGTTTCTG GGTGAGCAAA AACAGGAAGG CAAAATGCCG CAAAAAAGGG AATAAGGGCG    5400
ACACGGAAAT GTTGAATACT CATACTCTTC CTTTTTCAAT ATTATTGAAG CATTTATCAG    5460
GGTTATTGTC TCATGAGCGG ATACATATTT GAATGTATTT AGAAAAATAA ACAAATAGGG    5520
GTTCCGCGCA CATTTCCCCG AAAAGTGCCA CCTGACGTCT AAGAAACCAT TATTATCATG    5580
ACATTAACCT ATAAAAATAG GCGTATCACG AGGCCCTTTC GTCTCGCGCG TTTCGGTGAT    5640
GACGGTGAAA ACCTCTGACA CATGCAGCTC CCGGAGACGG TCACAGCTTG TCTGTAAGCG    5700
GATGCCGGGA GCAGACAAGC CCGTCAGGGC GCGTCAGCGG GTGTTGGCGG GTGTCGGGGC    5760
TGGCTTAACT ATGCGGCATC AGAGCAGATT GTACTGAGAG TGCAC                    5820
                                                                     5865
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Figure 13. hCMV10A1 Sequence

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AGATCTCCCG ATCCCCTATG GTCGACTCTC AGTACAATCT GCTCTGATGC CGCATAGTTA        60
AGCCAGTATC TGCTCCCTGC TTGTGTGTTG GAGGTCGCTG AGTAGTGCGC GAGCAAAATT       120
TAAGCTACAA CAAGGCAAGG CTTGACCGAC AATTGCATGA AGAATCTGCT TAGGGTTAGG       180
CGTTTTGCGC TGCTTCGCGA TGTACGGGCC AGATATACGC GTTGACATTG ATTATTGACT       240
AGTTATTAAT AGTAATCAAT TACGGGGTCA TTAGTTCATA GCCCATATAT GGAGTTCCGC       300
GTTACATAAC TTACGGTAAA TGGCCCGCCT GGCTGACCGC CCAACGACCC CCGCCCATTG       360
ACGTCAATAA TGACGTATGT TCCCATAGTA ACGCCAATAG GGACTTTCCA TTGACGTCAA       420
TGGGTGGACT ATTTACGGTA AACTGCCCAC TTGGCAGTAC ATCAAGTGTA TCATATGCCA       480
AGTACGCCCC CTATTGACGT CAATGACGGT AAATGGCCCG CCTGGCATTA TGCCCAGTAC       540
ATGACCTTAT GGGACTTTCC TACTTGGCAG TACATCTACG TATTAGTCAT CGCTATTACC       600
ATGGTGATGC GGTTTTGGCA GTACATCAAT GGGCGTGGAT AGCGGTTTGA CTCACGGGGA       660
TTTCCAAGTC TCCACCCCAT TGACGTCAAT GGGAGTTTGT TTTGGCACCA AAATCAACGG       720
GACTTTCCAA AATGTCGTAA CAACTCCGCC CCATTGACGC AAATGGGCGG TAGGCGTGTA       780
CGGTGGGAGG TCTATATAAG CAGAGCTCTC TGGCTAACTA GAGAACCCAC TGCTTAACTG       840
GCTTATCGAA ATGTCGACTG AGAACTTCAG GGTGAGTTTG GGGACCCTTG ATTGTTCTTT       900
CTTTTTCGCT ATTGTAAAAT TCATGTTATA TGGAGGGGGC AAAGTTTTCA GGGTGTTGTT       960
TAGAATGGGA AGATGTCCCT TGTATCACCA TGGACCCTCA TGATAATTTT GTTTCTTTCA      1020
CTTTCTACTC TGTTGACAAC CATTGTCTCC TCTTATTTTC TTTTCATTTT CTGTAACTTT      1080
TTCGTTAAAC TTTAGCTTGC ATTTGTAACG AATTTTTAAA TTCACTTTTG TTTATTTGTC      1140
AGATTGTAAG TACTTTCTCT AATCACTTTT TTTTCAAGGC AATCAGGGTA TATTATATTG      1200
TACTTCAGCA CAGTTTTAGA GAACAATTGT TATAATTAAA TGATAAGGTA GAATATTTCT      1260
GCATATAAAT TCTGGCTGGC GTGGAAATAT TCTTATTGGT AGAAACAACT ACATCCTGGT      1320
CATCATCCTG CCTTTCTCTT TATGGTTACA ATGATATACA CTGTTTGAGA TGAGGATAAA      1380
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ACAGCTCCTG GGCAACGTGC TGGTTGTTGT GCTGTCTCAT CATTTTGGCA AGGATCGGCC      1500
GGAACAGCAT CAGGACCGAC ATGGAAGGTC CAGCGTTCTC AAAACCCCTT AAAGATAAGA      1560
TTAACCCGTG GAAGTCCTTA ATGGTCATGG GGTCTATTT AAGAGTAGGG ATGGCAGAGA      1620
GCCCCCATCA GGTCTTTAAT GTAACCTGGA GAGTCACCAA CCTGATGACT GGGCGTACCG      1680
CCAATGCCAC CTCCCTTTTA GGAACTGTAC AAGATGCCTT CCCAAGATTA TATTTTGATC      1740
TATGTGATCT GGTCGGAGAA GAGTGGGACC CTTCAGACCA GGAACCATAT GTCGGGTATG      1800
GCTGCAAATA CCCCGGAGGG AGAAAGCGGA CCCGGACTTT TGACTTTTAC GTGTGCCCTG      1860
GGCATACCGT AAAATCGGGG TGTGGGGGGC CAAGAGAGGG CTACTGTGGT GAATGGGGTT      1920
GTGAAACCAC CGGACAGGCT TACTGGAAGC CCACATCATC ATGGGACCTA ATCTCCCTTA      1980
AGCGCGGTAA CACCCCCTGG GACACGGGAT GCTCCAAAAT GGCTTGTGGC CCCTGCTACG      2040
ACCTCTCCAA AGTATCCAAT TCCTTCCAAG GGGCTACTCG AGGGGGCAGA TGCAACCCTC      2100
TAGTCCTAGA ATTCACTGAT GCAGGAAAAA AGGCTAATTG GGACGGGCCC AAATCGTGGG      2160
GACTGAGACT GTACCGGACA GGAACAGATC CTATTACCAT GTTCTCCCTG ACCCGCCAGG      2220
TCCTCAATAT AGGGCCCCGC ATCCCCATTG GGCCTAATCC CGTGATCACT GGTCAACTAC      2280
CCCCCTCCCG ACCCGTGCAG ATCAGGCTCC CCAGGCCTCC TCAGCCTCCT CCTACAGGCG      2340
CAGCCTCTAT AGTCCCTGAG ACTGCCCCAC CTTCTCAACA ACCTGGGACG GGAGACAGGC      2400
TGCTAAACCT GGTAGAAGGA GCCTATCAGG CGCTTAACCT CACCAATCCC GACAAGACCC      2460
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GCACTTATAC CAATCATTCT ACCGCCCCGG CCAGCTGTAC GGCCACTTCC CAACATAAGC      2580
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AGGCCTTATG TAACACCACC CAAAGTGCCG GCTCAGGATC CTACTACCTT GCAGCACCCG      2700
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CCGATTATAT GTATGGTCAG CTTGAACAGC GTACCAAATA TAAGAGGGAG CCAGTATCGT      2880
TGACCCTGGC CCTTCTGCTA GGAGGATTAA CCATGGGAGG GATTGCAGCT GGAATAGGGA      2940
CGGGGACCAC TGCCCTAATC AAAACCCAGC AGTTTGAGCA GCTTCACGCC GCTATCCAGA      3000
CAGACCTCAA CGAAGTCGAA AAATCAATTA CCAACCTAGA AAAGTCACTG ACCTCGTTGT      3060
CTGAAGTAGT CCTACAGAAC CGAAGAGGCC TAGATTTGCT CTTCCTAAAA GAGGGAGGTC      3120
TCTGCGCAGC CCTAAAAGAA GAATGTTGTT TTTATGCAGA CCACACGGGA CTAGTGAGAG      3180
ACAGCATGGC CAAACTAAGG GAAAGGCTTA ATCAGAGACA AAAACTATTT GAGTCAGGCC      3240
AAGGTTGGTT CGAAGGGCAG TTTAATAGAT CCCCCTGGTT TACCACCTTA ATCTCCACCA      3300
TCATGGGACC TCTAATAGTA CTCTTACTGA TCTTACTCTT TGGACCCTGC ATTCTCAATC      3360
GATTAGTTCA ATTTGTTAAA GACAGGATCT CAGTAGTCCA GGCTTTAGTC CTGACTCAAC      3420
AATACCACCA GCTAAAGCCT ATAGAGTACG AGCCATAGGG CGCCTAGTGT TGACAATTAA      3480
TCATCGGCAT AGTATACGGC ATAGTATAAT ACGACTCACT ATAGGAGGGC CACCATGGCC      3540
AAGTTGACCA GTGCCGTTCC GGTGCTCACC GCGCGCGACG TCGCCGGAGC GGTCGAGTTC      3600
TGGACCGACC GGCTCGGGTT CTCCCGGGAC TTCGTGGAGG ACGACTTCGC CGGTGTGGTC      3660
CGGGACGACG TGACCCTGTT CATCAGCGCG GTCCAGGACC AGGTGGTGCC GGACAACACC      3720
CTGGCCTGGG TGTGGGTGCG CGGCCTGGAC GAGCTGTACG CCGAGTGGTC GGAGGTCGTG      3780
TCCACGAACT TCCGGGACGC CTCCGGGCCG GCCATGACCG AGATCGGCGA GCAGCCGTGG      3840
GGGCGGGAGT TCGCCCTGCG CGACCCGGCC GGCAACTGCG TGCACTTCGT GGCCGAGGAG      3900
CAGGACTGAN NNNCGGACCG GTCGA                                           3925
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